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THE REIGN OF THE
MANUSCRIPT

—
PERRY WAYLAND SINKS



2

1. The first part of the document discusses the importance of maintaining accurate records of all transactions and activities. It emphasizes that this is essential for ensuring transparency and accountability in the organization's operations.

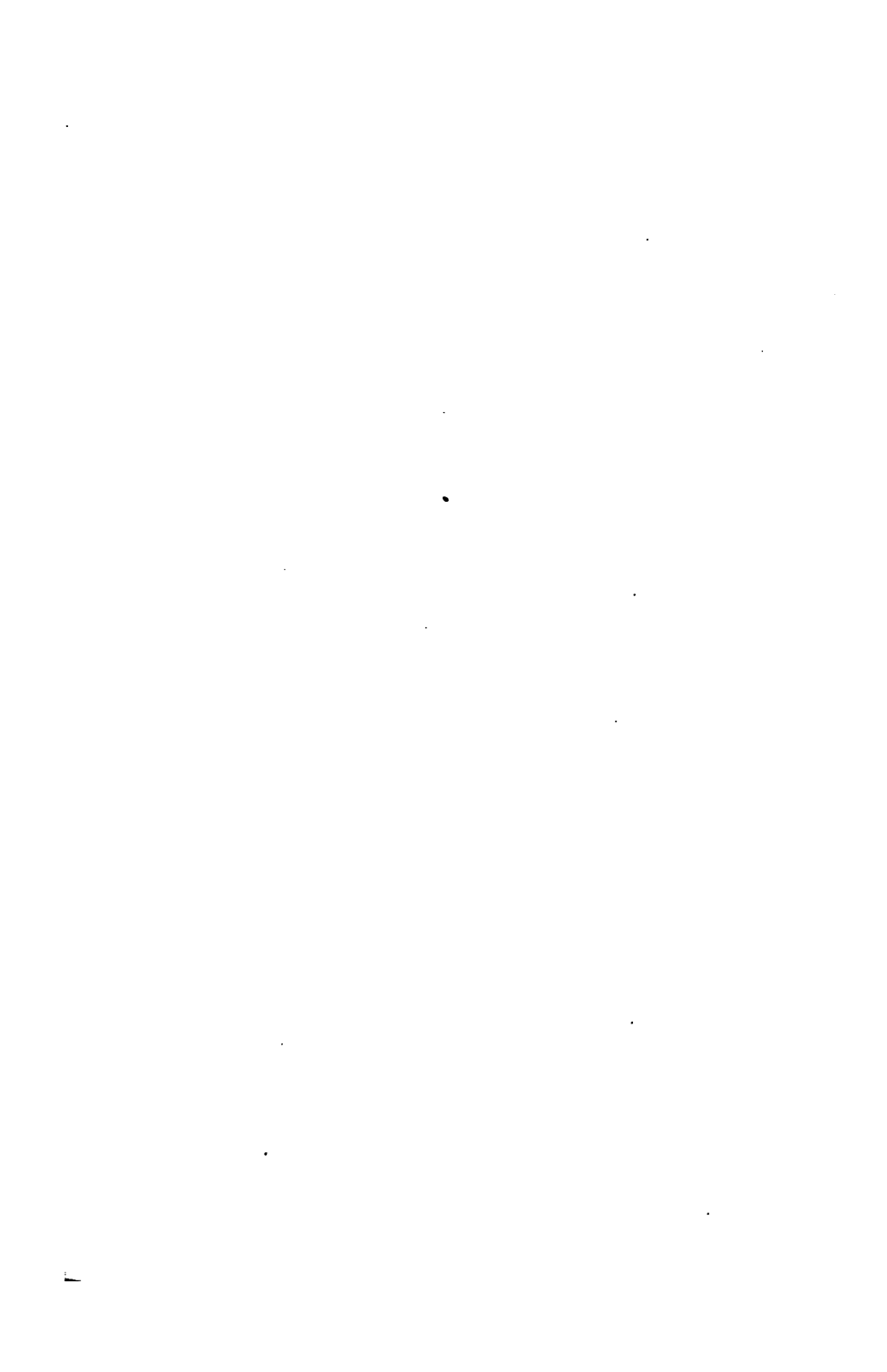
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4. The fourth part of the document provides a summary of the key findings and conclusions. It reiterates the importance of data in decision-making and the need for ongoing monitoring and evaluation to ensure the organization's success.

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Libraries Date Into Antiquity

By JIM D. BALL

MANY people were once inclined to take the word of the Greeks and let Pisistratus, who lived from 605 to 527 B. C., take the credit for founding the first library. But it seems that either the Cretans, the Assyrians or the Egyptians have the credit coming. Records show collections of tablets were made by Sardanapalus, grandson of the biblical Sennacherib, between 688 and 626 B. C., and rumors have been deciphered from Babylonian inscriptions which seem to place libraries at Nippur long before the Assyrian ever thought of coming down like a wolf on the fold.

The pyramid of Cheops, which was built so long ago that antiquarians vary from 1000 to 5000 years on its date, tells of collections which took the place of the modern libraries. Collections of clay and stone tablets unearthed at Knossos, in Crete, are thought by some to date from 6000 B. C.

The middle ages almost wiped out all the libraries, with the Christians and pagans burning each other's books. Practically all European libraries date back to some medieval monk.

The first Jamestown expedition in 1662 arranged for a library, but failed. The Pilgrim fathers brought their books along. Harvard university was founded in 1636, and two years later, through the will of Rev. John Harvard, the school was given 300 books.

The largest libraries in the United States are the congressional library, where more than 2,500,000 books are on the shelves, and the New York public library, with approximately the same number. The British museum collection exceeds 3,000,000 volumes, while the national library at Paris has more than 4,000,000 volumes.

THE REIGN OF THE MANUSCRIPT

BY
PERRY WAYLAND SINKS, S.T.D.

Author of
"Popular Amusements and the Christian Life,"
"Jesus and the Children," "About Money,"
"Whittlers of the Word of God,"
"In the Refiner's Fire"



And the books, especially the parchments.
—II. Timothy 4:13

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**TO OUR BELOVED SONS AND DAUGHTERS
OUR EARNEST CARE AND CROWN OF JOY**

AN APPRECIATION

I have examined the manuscript of your book with care. The conception seems to me to be admirable, and new in form of presentation. There is a great deal of valuable material for which one would search a long time and then not find it in the orderly and compact form which you have given it. It seems to me that Sunday school teachers would welcome it especially, and leaders of teacher-training classes would desire to use it as an auxiliary text book. I trust it will be widely read.

ERNEST BOURNER ALLEN

The Washington Street Congregational Church.

Wledo, 1917

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**THE REIGN OF THE
MANUSCRIPT**

THE REIGN OF THE MANUSCRIPT

I

THE EPOCHAL INVENTION OF PRINTING

THE invention of printing at about the middle of the fifteenth century marks an epoch in the world's literature and in the history of the human race. Previous to this invention were spread out the events, the scenes, and the achievements of ancient and medieval times; after it came the marvelous unfoldings of the modern age.

The introduction of typography or the art of printing by means of movable types set in operation an instrumentality which, for multiplying the effectiveness of all literary productions, is far beyond all adequate conception;—and this all apart from the time of its origin and the person of its originator.

Printing as an invention and an art—for it is both—has been ascribed to the Chinese, and is said to have been known from, or from before, the dawn of the Christian Era. Mr. George H.

Putnam states it as a fact that "Printing from solid blocks was done in China as early as the first century A. D.," and credits the art of printing from movable types to a blacksmith who turned out books in China toward the close of the tenth century, A. D., or early in the eleventh. And a writer in the *Encyclopedia Britannica* (Eleventh Edition) asserts that printed books were common in China in the tenth century, and that examples of xylographic or block printing in Japan date from the period of 754 to 770 A. D. However this may be, it remains true that, in relation to the spread of literature and the development of civilization, typography is occidental rather than oriental. Furthermore, we need to distinguish between the block printing of China and the great invention at the middle of the fifteenth century. Comparing impressions from engraved blocks of wood with the type-printing of Gutenberg, Professor Dobschütz says: "People had used woodcuts before his time. Engraving large blocks of wood with pictures and letters, they printed the so-called block-books as a cheap substitute for illuminated manuscripts. Gutenberg's great idea was that instead of using a woodcut block for the page one might compose a page by using separate movable letters, putting them together according to the present need, then separating them again."¹ It is generally conceded that the invention of printing from movable types, as an epoch of human his-

¹ *The Influence of the Bible on Civilisation*, p. 119.

tory, had its real beginning in Germany, dates from the middle of the fifteenth century, and is associated with one named Johannes Gutenberg.

Gutenberg was of patrician parentage and was born at Mainz (the modern Mayence), Germany, about 1400 A. D. His life was a prolonged struggle with adverse circumstances. He died in 1468, poor, childless, and almost friendless—scarcely dreaming that he had laid the foundations of a benefaction which chronicled the turning-point of universal history, set a permanent guide-post in the world's progress, and proclaimed a new era in civilization. But so it was.

While we are without definite information as to how the first copies were printed, yet it is obvious from Gutenberg's famous forty-two line Bible that they used a mechanical press. The earliest picture of a printing-press shows an upright wooden frame with a screw post attachment by means of which the required pressure for impression was obtained and then reversed to release and remove the printed sheet. This screw post was operated by a movable bar. This kind of press continued to be used for a hundred and fifty years. The first types were cut from wood, but the ink used had a softening effect thereupon and lead was substituted. Lead, in turn, was found to be too soft a metal to resist the pressure requisite for printing. After experimentation, an alloy of antimony and lead proved to have the adaptable strength and softness; it was also capable

of delicate and clear-cut manipulation. These metal types were first cast in sand and, later, in clay molds. The ink used for printing with the Gutenberg press was a mixture of linseed oil and lamp-black and was applied to the type-form by means of a "dabber" made of skin and stuffed with wool. It is stated that the first types as used in China were made of plastic clay; later, of copper; and then of lead, inasmuch as copper had come to be utilized as coin. (Putnam.)

It is worthy of our note in this connection that the first important product of the printing-press was the Bible;—was devoted, as has been said, "to the service of heaven." This first "production" was on 641 leaves of vellum, two columns to a page, and forty-two lines to each column. "Probably," says Professor Dobschütz, "not more than 100 copies of the Bible were printed, a third of these on parchment. Out of thirty-one copies which have been preserved, or, to speak more accurately, are known as such, ten are luxuriously printed on parchment and illuminated, each in a different way, but all very fine and costly."² (One copy of Gutenberg's first printed Bible was sold for \$20,000.) The first copy of this edition known to scholars—the Latin Vulgate—was discovered long after (in 1760) in the library of Cardinal Mazarin, whence its designation, "the Mazarin Bible." Nine other copies which were upon vellum and a score that were

² *The Influence of the Bible on Civilisation*, p. 121.

printed on paper (two of which are in New York City) are all that are known to the bibliographers of the first "edition" of the printed Bible. While engaged in the production of this first book (which required four years, 1453-1456, to complete) Gutenberg printed smaller works—school books and the like—for immediate financial returns. In this first edition of the printed Bible the initial letters were not struck off by press but were left, together with the marginal decorations, for after illumination by hand. A Bible printed at Mainz in 1462 is the first printed book that bears the date of its production.

II

THE IMPORTANCE OF THE PRINTING PRESS

THE printing-press, in many essential respects, is the most significant invention of all human history. It has touched and vitalized civilizations, countries, nations, languages, and dialects. As an invention it has contributed immeasurably to the currency and the perpetuity of all literature. It also sounded the doom of the written book. Hallam, the Historian of the Middle Ages, says: "Since the invention of printing the absolute extinction of any considerable work seems a danger too improbable for apprehension. The press pours forth in a few days a thousand volumes, which, scattered like seeds in the air over the Republic of Europe, could hardly be destroyed without the extirpation of its inhabitants." And, concerning the exposure to which the manuscript production of all previous history was subjected, he says: "In the times of antiquity manuscripts were copied with cost, labor, and delay; and if the diffusion of knowledge be measured by the multiplication of books (no unfair standard) the most golden ages of ancient learning could never bear the least comparison with the last three centuries. The destruction of a few libraries

by accidental fire, the desolation of a few provinces by unsparing and illiterate barbarians, might annihilate every vestige of an author, or leave a few scattered copies, which, from the public indifference there was no inducement to multiply, exposed to similar casualties in succeeding times.”¹ In a word, printing has the double advantage over writing of a more rapid multiplication of copies and their increased accuracy. But even with the increased accuracy of printing, few books of considerable size are issued in which errors are not to be found. It is said to be the fact that, after incredible care on the part of editors and professional proofreaders, the offered reward of a guinea for each detected error in the Oxford Revised Version of the Bible brought several errors to light. (International Stand. Bib. Encyclopedia.)

The invention of printing, through its associated process of proof corrections, has virtually exempted books from the mundane laws of decay and has greatly aided as well in their preservation and their widest circulation. This invention has made definite and immutable the records of the world since then and it has contributed also to the purification and renewal of the more ancient literary productions. Printing as an invention has given to an edition of a particular work a measure of importance hundreds or thousands of times greater in every respect save one, viz., the labor of transcrip-

¹ Middle Ages, vol. 1, p. 7.

tion, than that which had previously attached to the production of a single book. The invention has therefore involved and necessitated a proportionately larger consideration in the making of a printed book, lest defects and errors in the type-plates from which the book is printed should become permanently fixed in a thousand or ten thousand impressions therefrom. (Isaac Taylor.) And it was printing that made uniformity of text possible. Guizot estimates the importance of this invention thus: "From 1436 to 1452, printing was invented:—printing, the theme of so much declamation, and so many commonplace, but the merit and the effect of which no commonplace nor any declamation can ever exhaust."

The invention of printing has peculiar significance within the realm of religious life and knowledge; for, in relation to the scripture text, to the spread of religious intelligence and the progress of Christianity, and to the growth and stabilization of the individual character,—in a word, in relation to Redemption itself, who can apprehend, much less measure, the significance of this invention? Truly, the Bible which *enfolds* the basis of our faith as the bud does the blossom and the fruit, as well as *unfolds* the way of life as the guide-post directs the traveler on his journey, has come into the world for man, and has come to stay. For the great discoveries and inventions, in wide areas of human investigation, but brighten its pages and multiply its capacity to fulfill the purposes of God on the earth.

III

THE PERIOD OF MANUSCRIPT LITERATURE

THE age in which literature was disseminated and preserved extended from the time of the earliest intellectual compositions designed for communication—as the papyri hieroglyphics of ancient Egypt and the leather and parchment rolls of the early Persian and Jewish peoples; and included also those compositions which had a limited circulating character, like the tablets and cylinders of ancient Assyria—down to the time when the printing-press was invented. This, inclusively, is the period of the manuscript literature. Throughout this entire period of the world's ongoing, for many hundreds or some thousands of years, each and every kind of production, whether in hieroglyph, cuneiform, or alphabetic characters, was made by itself—the producer inscribing, painting, or printing (letter by letter or character by character) through hundreds and thousands of pages. “To the time of the invention of printing, and until the printed book had driven it out of the field, the manuscript was the vehicle for the conservation and dissemination of literature and discharges the function of a printed book.”

A *book* has been defined as “any record of thought

in words." This may be a correct definition as far as it relates to literature but not as it relates to the "record of thought." There is a "record of thought" independent of words and, perhaps, long antedating the record in words of any language. A *word* has been defined as "the sign of an idea." But were there not "ideas" long before they were communicated by words? If there are "songs without words" may there not be, or, at least may there not have been, "ideas without words"? An affirmative answer is admirably illustrated—and the illustration is confirmatory—by a group of six great mural paintings by Mr. John W. Alexander, in the Library of Congress at Washington. These pictures illustrate historically the probable genesis and evolution of the "book." The first painting is of the rude *Cairn* or heap of stones piled up on the seashore or elsewhere by prehistoric man in order to commemorate some event or achievement, and thus to stand as a "record" or landmark of a fact or truth. The second picture is illustrative of *Oral Tradition*, and represents the "narration" of facts or doings by the word of mouth. The third is called the *Pictograph* which consists in delineations of events or experiences as drawn by some implement upon the surface of skins, or on the leaves or bark of trees or plants, and by means of which there was created a kind of permanent "record" of past "happenings" or doings. The fourth is the *Hieroglyphics*—which brings us to the historic period—

in which there were carved on the face of cliffs, on the walls of structures of any kind, or on wood, the pictured and, may be, progressive delineations of events or ideas. The fifth is the *Manuscripts* or the record contained in written language and which was phonetic, syllabic, or alphabetic,—the end toward which all earlier stages of “record” tended. The sixth and last picture is the *Printing Press*, the embodiment and consummation of all the earlier phases and stages in the “records of the past.” It is the obvious lesson from these great paintings that a “record of thought” by means of “words” was not fully achieved until the manuscript entered upon its world-wide and enduring career, or, in which “words” became the embodiment and depository of permanent and communicable “ideas.” The words of Mr. E. C. Richardson are quoted as bearing upon the period of manuscript literature: “Some of the pictures on the cave walls of the neolithic age seem to have the essential characteristics of books and certainly the earliest clay tablets and inscriptions do. These seem to carry back with certainty to at least 4,200 B. C. By a thousand years later, tablet books and inscriptions were common and papyrus books seem to have been well begun. Another thousand years, or some time before Hammurabi, books of many sorts were numerous. At the time of Abraham, books were common all over Egypt, Babylonia, Palestine, and the eastern Mediterranean as far at least as Crete and Asia Minor.

In the time of Moses, whenever that may have been, the alphabet had perhaps been invented, books were common among all priestly and official classes, not only in Babylonia, Assyria, and Egypt, but at least in two or three scores of places in Palestine, north of Syria and Cyprus.”¹

The earliest literature of the ancient Greeks was first preserved in oral traditions, folk-lore, and legendary minstrelsy, and not in written language. It is possible, nay, probable, that in Greece, Egypt, China, Japan, and Persia also, folk-lore and folk-tales were perpetuated through memory by means of recitations, as in the instances of the *rhapsodists*—the class of professional reciters who publicly declaimed the Homeric literature and the folk-lore of the ages with more or less artistic inflection or intonation of the voice. The proclamations of rulers, the compositions of poets and historians, and the oracles of religion were anciently published orally, often, by heralds, minstrels, and prophets. The great Hebrew Lawgiver embodied a wide-spread principle and practice in his final injunction to the Hebrew nation: “Now therefore write ye this song for you and teach it to the children of Israel; put it in their mouths, that this song may be a witness for me against the children of Israel.” (Deut. 31:19.) Aside from narrower applications of this practice, the great achievements and deliverances of the Israelitish people were celebrated and perpetually

¹ International Standard Bible Encyclopedia, art. “Books.”

memorialized in song and psalm. On the shores of the Red Sea, Moses and his people sang their song of deliverance from the hand of their enemy. And when, at a later age, the Ark of the Covenant was borne to its resting place within the Sacred City, it was amidst the antiphonal chanting of the psalm which David, himself, had composed for the occasion. The psalms in themselves—as one of the purposes of their composition—were a partial witness to the place and prominence of song and chant in teaching religious truth and thus in keeping faith alive on the earth. Plato states that the first laws of all nations were composed in verse and sung. There is a remembrancer in Plato's statement concerning the first laws of nations of our own primitive pedagogical methods within certain departments of learning. And so, by tradition, recitative, minstrelsy, and psalmody—of wide application in the early ages—both a wider currency and a more tenacious hold was taken by these laws, proclamations, and truths upon the popular mind. Especially so as the popular mind was deficient in the art of reading, even when literature had been embodied in writing. And this was true in both sacred and profane history. Thus, minstrelsy, chant, and tradition have performed an important function in the beginnings of many ancient peoples. And, strange as it may seem to us, Plato, notwithstanding his voluminous writings and his place in the literary world for nearly three thousand years, put a low

estimate on the importance of written as compared with oral teaching.

The Greek classics—the matchless monuments of ancient literature—as represented in the *Iliad*, the *Odyssey*, and the Homeric Hymns were preserved, perpetuated, and disseminated for generations if not for centuries, not by written records—as later literature has been handed down by the written or printed page—but through ballads, minstrelsy, and recitation. “The Æolic emigrants who settled in the north-west of Asia-Minor brought with them the warlike legends of their chiefs—the Archæan princes of old. These legends lived in the ballads of the Æolic minstrels, and from them passed southward into Ionia, where the Ionian poets gradually shaped them into higher artistic form.”² “Mahaffy and Jevons are in accord,” says Mr. Putnam, “in pointing out that the effort of memory required for the composition and transmission of long poems without the aid of writing, while implying a power never manifested among people possessing printed books, is not in itself at all incredible. Memory was equal to the task, and the earlier Greek poems, memorized by the authors as composed, were preserved by successive generations of bards.” And again he says, “It is to be borne in mind that the (to us) extraordinary extent to which the Greeks were able to develop their power of memorizing enabled them often to trust their memory where mod-

² *Encyclopedia Britannica* (Eleventh Edition).

ern students would be helpless without the written (or printed) word. . . . The boys in school were given as their daily task the memorizing of the works of the poets, and what was begun under compulsion appears to have been continued in later life as a pleasure.”³ And in the preface of the book from which the foregoing statements are quoted, the author says, “It is evident that there were literary productions in advance, and probably very far in advance, of the discovery or evolution of literary characters, and also long after the use of script by authors, the greater portion of the public in all ancient lands received their literature, not through their eyes, but through their ears,—not by reading the text, but by listening to reciters, story-tellers, and ‘rhapsodists.’” (P. xiv.) We quote the following from Mr. E. C. Richardson: “The Vedas were, it is alleged, handed down for centuries by a rigidly trained body of memorizers. The memorizing of Confucian books by Chinese students and of the Koran by Moslem students is very exact.”⁴ “The office of reading,” says Professor Dobschütz, “was esteemed so highly that it was regarded as based on a special spiritual gift. . . . The reader had to know his text almost entirely by heart to do it well. From the ‘Shepherd of Hermes,’ a very interesting book written by a Roman layman about 140 A. D., we learn that some people gathered often,

³ *Authors and Their Public*, pp. 63, 106.

⁴ *International Standard Bible Ency.*, art. “Books.”

probably daily, for the special purpose of common reading and learning. But even granted that the memory of these men was not spoiled by too much reading, as is ours, so that by hearing they were able to learn by heart (it is said of some rabbis that they did not lose one word of all their master had told them, and, in fact, the Talmudic literature was transmitted orally for centuries), nevertheless, we must assume that these Christians had their private copies of the Bible at home." ⁵ Prescott says of the pre-historic Mexico: "Besides the hieroglyphic maps, the traditions of the country were embodied in songs and hymns. . . . These were various, embracing the mystic legends of a heroic age, the warlike achievements of their own, or the softer tales of love and pleasure." ⁶ Of the early times of English literature, D'Israeli states that "before the people had national books they had national songs," and that "these songs and these fables, these proverbs and these tales,—all these were a library without books." ⁷ And an anonymous author, recently traveling in a remote portion of northern Albania, records it that "the wild, inaccessible country is under various independent tribes, ruled by a chieftain according to unwritten laws handed down orally from remote ages." He also states that "the country has no written language and no literature." ⁸

⁵ *The Influence of Bible on Civilisation*, pp. 13, 14.

⁶ *The Conquest of Mexico*, Vol. 1, p. 111.

⁷ *Amenities of Literature*.

⁸ *The Near East*, p. 40.

Thus, from very early if not from pre-historic times, down to the present moment there have been repeated if not continuous examples, and widespread on the earth if not universal, of the place and importance of oral tradition as a datum of history and source of literature. Says Professor Sayce: "Archæological research is constantly demonstrating how dangerous it is to question or deny the veracity of tradition or of an ancient record until we know all the facts."⁹ This much must be conceded, in holding that oral tradition is secondary to written records. The reason for their secondary value is obvious from the fact that "ear impressions tend to be less exact than eye impressions because they depend on a brief sense impression, while in reading the eye lingers until the matter is understood. Memory copy tends to fade away rapidly. This is shown by the great variety in the related legends of closely related tribes."¹⁰

But from very early times—just how early cannot be determined, inasmuch as historiographers and chronologists differ as to the beginning-times of written literature in the respective civilizations—literary compositions of every sort, both sacred and profane, were recorded and disseminated, so far as they were recorded and disseminated, by the tedious and laborious process of writing or carving or impressing by hand. Literature, almost entirely, through-

⁹ Monument Facts, p. 60.

¹⁰ International Standard Bible Ency., art. "Books."

out this long period was contained in and continued by the manuscripts. The cuneiform writing on tablets and cylinders, though so voluminous in quantity, seems to have been lost sight of and disregarded for millenniums of years while they were a sealed literature; and the hieroglyphic writing of Egypt remained undeciphered for, perhaps, an equal period of time, down to the close of the eighteenth century.

It is the obvious fact, then, that, in an age of the world's history when the printing-press with its almost limitless capacity for extending and preserving literature was yet unknown, all literary productions of all kinds—including the Bible—must have been meager in the extreme as compared with the present rapid increase of the printed page when steam and heat and electricity are motive powers. A present-generation occurrence will fitly and forcefully illustrate this proposition: It will be recalled to mind that the Revised New Testament was issued simultaneously by the Oxford Press in both London and New York on a designated day of 1881; it may not be remembered, however, that an enterprising Chicago daily had the entire New Testament telegraphed from New York, immediately at its issue in that City, in order that it might be secured and printed in Chicago in an enormous edition a few hours in advance of the mails and express, put into circulation and sold to the financial advantage of that newspaper. Compare that achievement of printing hundreds of thousands of the New Testa-

ment, accomplished within a few hours' time, with the transcription of a single copy of a book, and you must have a new sense of the importance of the printing-press in relation to all literature. And contrast, if you will, the slow and inadequate composition and dissemination of intelligence by the laborious process of handwriting with the present-day marvelous facilities for publication when the linotype is mostly employed in setting the type-plates for periodicals and books, and when a single press will print and fold about thirty thousand copies of a metropolitan journal in one hour's time, and, from both *comparison* and *contrast*, you must have a higher appreciation for the printing-press as an instrumentality for the spreading of intelligence and the progress of civilization.

Consider, too, the all but prohibitive cost of books, when made by hand and estimated by the labor of their making, and you must have a new and a truer basis of valuation for manuscript literature. A few facts and incidents will illustrate and enforce the foregoing observation: It required nearly three years in the time of Wycliffe (who died in 1384) for a copyist to transcribe the entire Bible, and this labor cost the equivalent of \$1,500. Even tracts of Wycliffe, containing isolated texts of scripture, were sold for forty or fifty dollars as the money of that day would be estimated in our currency. (Christ in the Gospels.) It is credibly stated that, in the century before Wycliffe's time,

“an ordinary folio volume probably cost 400 to 500 franks,” or the sum of eighty to a hundred dollars in present values. Very few books could be bought at all, at some periods of time, for less than the equivalent of one hundred dollars; and illuminated or illustrated and embellished books, of which there then were and there yet remain exquisite examples, cost much more than this amount. And yet books never seem to have been a “drug” upon the market. And while it required four years for Gutenberg to print his first edition of the Bible (consisting of a hundred copies) yet the time employed in its making, if compared with the time and labor requisite for the transcription of a hundred copies of the Bible by hand, would represent a net gain or saving, in time, of nearly seventy-five years and, in money, of more than a hundred thousand dollars. It would represent other values: as uniformity of text, economy of material, and larger aggregate immunity from error. It is stated that the common price of a Bible in the thirteenth century ran as high as \$300, and that in the fourteenth century Bibles were sold for as much as \$2,000. It is said that Bibles were left as precious bequests to relatives and friends and that they were even given as security for large debts.

The cost of materials and of the transcription of books added immensely to their appraised valuation in the different ages. We quote from a volume by Mr. Geo. H. Putnam concerning books and their making in pre-Christian times: “It appears from

such references as we find to the prices paid that, as compared with other luxuries, books remained very costly up to the time of the Roman occupation of Greece, or about 150 B. C. . . . Plato is reported to have paid for three books of Philolaüs, which Dion bought for him in Sicily, three Attic talents, equal in our currency to \$3,240,—and the equivalent, of course, of a much larger sum, estimated in its purchasing power for food. . . . The cost of books depended, of course, largely upon the cost of papyrus, for which Greece was dependent upon Egypt. An inscription of the year 407 B. C., quoted by Rangabé, gives the price of a sheet of papyrus at one drachma and two oboli, the equivalent of about twenty-five cents.”¹¹ Ptolemy Philadelphus is said to have authorized the giving of fifteen talents of silver, the equivalent of about \$16,200, in addition to a shipment of corn, to the furnishing Athenians for certain authenticated copies of the tragedies of Æschylus, Sophocles, and Euripides for the Alexandrian Library. (Putnam.) And, later, in the early part of the Christian Era, the price of copying books was estimated by the number of lines they contained. Diocletian, it is said, fixed the wage of the copiers of his time at forty *denarii* or at about twenty-five cents per one hundred lines. Late in the thirteenth century, the price of transcribing a Bible containing a commentary thereon, written in a fair hand, ranged from one hundred and fifty to two

¹¹ *Authors and Their Public*, pp. 93, 94.

hundred and fifty dollars, though earlier in that century the purchasing power of money was so great and labor so cheap that two arches of London Bridge were built for the equivalent of a hundred and twenty-five dollars, or less than the cost of transcribing a Bible with a commentary. In 1272 the wages of a laboring-man were less than four cents a day, while the price of a Bible at that time was about one hundred and eighty dollars. (The Book Record.) In other words, a common laborer must then have toiled for thirteen years, according to the current labor values of the time, in order to secure the purchase-price of a Bible; though in an age when few could read, this was not so large a deprivation. Now, the American Bible Society can furnish the entire Christian scriptures, creditably bound in cloth with fair and readable type, for less than twenty-five cents. A common laborer, who generally has a rudimentary education at least, can now secure the Bible at the purchase-price of two hours' toil, or the New Testament for less than a half-hour's toil; and, what is more, the common laborer can, in most instances, not only read the Bible but has the respite from excessive labor to do so.

IV

THE AMPLITUDE OF THE BIBLE IN MANUSCRIPT

NOTWITHSTANDING the more limited and the less reliable sources of literature (including the Bible) there was, nevertheless, substantial and even abundant material of a historical character from which to construct a bridge of the-continuous-history-of-literature over and beyond the gulf of the Dark Ages. The preservation and circulation of literature, not only sacred but profane as well, by means of written symbols, is not limited to one language, nor to mediæval times,—nor to the Christian Era—but reaches back into a remote age. Considering the slow and laborious process of book-making and the generally low stage of interest in literature throughout wide areas of the earth and for lengthy periods of time, the amplitude of the manuscript productions of the world, as evidenced in the ancient libraries and religious “houses” with their various utilities, is one of the marvels of history—a veritable wonder of the world.

Note an incident of the New Testament record which, within the realm of sacred literature, illustrates the process by which literature in general has been disseminated: We are informed in one of the

books of the New Testament that, early in the fourth decade of the first century (on the first Pentecost after the crucifixion of Jesus), "there were dwelling at Jerusalem, Jews, devout men out of every nation under heaven." And in the effusion of the Holy Spirit which came upon them then and there, they exclaimed—amazed and bewildered—"How hear we every man, in our own tongue, wherein we were born? Parthians, and Medes, and Elamites, and the dwellers in Mesopotamia, and in Judea, and Cappadocia, in Pontus, and Asia, Phrygia, and Pamphylia, in Egypt, and in the parts of Libya about Cyrene, and strangers of Rome, Jews and proselytes, Cretes and Arabians, we do hear them speak in our tongues the wonderful works of God." (The Acts 2:8-11.) As many as fifteen distinct nationalities and races were represented in this assemblage. It was, indeed, a cosmopolitan congregation and was composed of inhabitants from the then known world; and nothing is more probable than that representatives of those gathered at Jerusalem were among the "three thousand" added to that primitive company of believers on that occasion and that, when many of them went back to their native lands, they returned instinct with devotion to their new-found Master, and that, in their own respective and widely separated countries—under the impact of this new and inspiring hope which had been begotten within them at Jerusalem—they sowed the seed which bore the precious fruitage of

evangelism in many lands throughout the early centuries of our Era. Indeed, the wide dispersion of the first Apostles and disciples of Jesus to the East, to the West, and to the South—into eastern Asia, into Europe, and into northern Africa—in the face of efforts to repress, and over obstacles and against contending forces everywhere, can best or only be accounted for on some such historical presupposition as is brought to our notice in the book of The Acts.

The first Apostles, in accordance with the terms of the Great Commission, were supernaturally endowed with "the gift of tongues" in order to be the message-bearers of the truth unto the nations. But this special endowment of Apostles did not extend to the peoples unto whom the revealed truth was sent nor, indeed, to their successors in commission. The recipients of the gospel message wrote and spoke in many languages and dialects, and thus there was created a need and demand for the word of God in the vernacular of many peoples. The many versions made, soon afterwards, into the different languages and dialects were the evidences of this demand and of its urgency and pertinency when the Apostles with their supernatural endowments were no longer accessible or available. In evidence of this fact we cite the career of the Apostle Paul. It is an established fact of history that the propagandistic labors of Paul, within a little more than a quarter of a century, extended from Jerusalem, the capital of the religious world, to Rome, the seat of

world-empire. This fact witnessed, indubitably, to the westward growth of the Christian Church. And we have traditions, literary, historical, and archæological evidences which indicate, conclusively, that others of the Apostles and early Christian teachers went eastward and southward from that common center at Jerusalem to Egypt and the shores of the Mediterranean and the Euxine; toward, if not unto, Babylon, Armenia, Hindustan, and the coasts of Ceylon. And in all these sections, over what may be called "the known world" of the time, these Christian propagandists—Apostles and disciples of Jesus—planted churches which, many of them for long after, became centers of evangelizing power.

The Apostles spoke and wrote in Greek, save as they were moved by the Holy Spirit and prompted by the needs of the people at Pentecost. But in every place whither the Apostles were sent and where converts to the Christian faith were gathered through their preaching, there remained the opportunity for and the need of the scriptures which had been the burden of the apostolic message, when these first propagandists of Christianity had passed on to other needy places. The after decline of the Greek language as the spoken tongue and the development or adoption of other tongues facilitated in consequence the multiplication of the scriptures or parts thereof, or communications from leaders and teachers, in the vernacular of different races or families of mankind. It is an interesting fact that,

during the first three centuries of the Christian Era, and even when the Bible was interdicted, every Christian who could possess it tried to own at least some one book of the New Testament.

Furthermore, it is the fact sustained by scholarship and history that numerous versions of the scriptures were made, in the early Christian centuries, into other languages and dialects;—the Slavonic, Arabic, Persic, and Armenian tongues; earlier still into the Gothic tongue and the Ethiopic dialects of Abyssinia; and still earlier into the Coptic, Latin, and Syriac dialects. [It was the estimate of Gibbon, the historian of the *Roman Empire*, that there were probably six millions of avowed Christians when Constantine began to patronize Christianity in 313 A. D. And, allowing that there was one copy of the scriptures (of the New Testament or one of its books) to each three hundred Christians—not an extravagant supposition, considering what the sacred writings were to the early believers—there were probably not fewer than twenty thousand copies of the New Testament or individual books or their parts scattered throughout the world when Christianity came into royal favor in the Roman Empire.] These unnumbered copies in Greek—which long continued to be the spoken language for a large part of the world's population—together with the vast number of versions made from the original Greek into the languages and dialects of adjacent and contemporaneous peoples in order to meet the need of

the first Christian Churches in wide areas of the Roman Empire, down to and after its fall, suggests the amplitude of the sacred writings *in manuscript* during the early centuries of our Era. This is proclaimed as from the house-top in the large and constantly increasing number of manuscripts, in different languages, which have been rescued as relics from an otherwise chaotic era. It is the estimate of Dr. Marvin R. Vincent that no fewer than 3,829 manuscripts have been discovered and catalogued. These have been gathered from many lands—Turkey, Egypt, the Ægean region, Cyprus, Greece, Italy, ancient Macedonia, Palestine, Africa, Spain, the Sinaitic Peninsula, Asia Minor, and in fact, from all Bible lands, and are preserved in the world's greatest libraries.

Professor Dobschütz summarizes the history of the versions and translations of the Bible, throughout the centuries to the invention of printing, as follows: "In the first period we found the Bible translated from the Greek into Latin, Syriac, Coptic; in the next period Gothic, Armenian, Georgian, Libyan, and Ethiopic were added, not to mention several revisions of former translations. About 600 A. D. the Bible was known in eight languages; in each of these there had been several attempts at translating. There were different dialects, too; in Coptic no less than five. The spread of Christianity in the next period is shown by the fact that the Bible is translated—and this again several times—into

Arabic and Slavonic from the Greek, and into the German, Anglo-Saxon, Celtic, and French from the Latin—rather should I say, parts of the Bible, for it was only parts which people at this period tried to translate.”¹ And he shows us how this movement to give the Bible to the people in their own vernacular spread—from the thirteenth century on until the invention of printing—into south-eastern France, over Italy and Germany, into England and Bohemia, and, possibly, into Scandinavia; and declares, truly, “it is like a net thrown all over Europe.”

¹ *The Influence of the Bible, Etc.*, pp. 124, 125.

V

THE HUMAN ELEMENT IN LITERATURE

THE Bible even as literature—and both in its origin and history—is a human as well as a divine book. It is *human* in that it is *to* man and *for* man, and not *to* and *for* supernatural intelligences or the conceived populations of other planets; it is *divine* in that it is *of* God and *from* God. There is a real sense in which the definition of the Bible as given by Frederick W. Robertson is correct, “The Bible is the thoughts of God in the words of men.” And we would hold that the Bible must be studied, if in a scientific, intelligent, and reverent spirit, under the two-fold conception that it is both a human and a divine book. And we believe also that nothing can ever be gained for the Bible, considering it a supernatural book, by setting up any erroneous or untenable hypotheses concerning its origin, character, or history on its behalf. And, moreover, the Bible nowhere and never makes any such an appeal on its own behalf, or pleads for exemption from the accepted principles of historical criticism. “The written word of God, like the Word which became flesh,” says Professor G. F. Wright, “must be human in its manward aspect; for the written word

is divine thought manifest in human language as Christ was God manifest in human flesh. As the compound personality of Christ was conditioned by the flesh, so the compound character of a written revelation is conditioned by the nature of language. As God in becoming incarnate did not take upon Himself the form of angels but the seed of Abraham, so a written revelation is not sent in a form adapted to heavenly beings but in a form suited to men." ¹ And if the Bible, while it is from God, is for man then it must be adapted to man's receptive condition. If the Bible is truly a "revelation" then it must "reveal"; which is only to say that it must be given in terms or modes of expression adapted or accessible to the human capacity;—it must meet man's condition at the time when the revelation is given as well as his condition a thousand or ten thousand years later; or, in other words, "revelation" must "reveal." Revelation has thus been progressive up to the period of its fulness or up to the cycle of its completion, with an expansive capacity for all future time. Progressive capacity is essential to the conception of a revelation that is universal and final. Borrowing the fine expression of Professor A. B. Bruce, revelation "must take the recipients of benefits along with it, and move at a pace with which they can keep up." Thus, revelation in its methods accords with nature in that it took the form of an historical movement and was

¹ *Divine Authority of the Bible*, p. 103.

subject to the laws of periodic development. "The redemptive purpose of God," declares Professor Bruce, "was not ushered into the world a full-grown fact; it evolved itself by a regular process of growth, and the process was marked by three salient features: slow movement, partial action, and advance from the more or less imperfect, not only in knowledge, but also in morality." And he says, further, "God had to teach Israel to walk in the paths of righteousness like a nurse taking a child by the arms, and had to exercise a nurse-like condescension and patience in connection with the self-imposed task of Israel's moral education, and to become as a child Himself, speaking in broken language and giving laws of a very rude and primitive character adapted to the condition of the pupil." ²

The Bible is, truly, a supernatural book. One once confessed to an abounding confidence in the plenary inspiration of the scriptures in that he "accepted the Bible from 'lid' to 'lid'—and including the 'lid.'" But the supernaturalism which we believe belongs to or inheres in the Bible does not attach to the "lids"—to the materials by means of which the scriptures, as literature, have been communicated and preserved from age to age. (The fact which is here suggested is all apart from the question of inspiration.) God wastes no energies in a miraculous preservation of the materials of books,—not even of the materials of the "good

² The Chief End of Revelation, pp. 99, 134.

Book." God does not violate, we think, the great law of "parsimony" by exerting either superfluous or supernatural energies for the accomplishment of His purposes. It was only when King Jehoiakim in his blind rage and folly cut the "roll" in pieces and burnt its mutilated fragments, that the supernatural energies were called into requisition to *restore* the "words of the book, which Jehoiakim, king of Judah, had burned with fire." (Jeremiah 36:32.) God has, however, guarded, preserved, and treasured—and in a marvelous, not to say supernatural manner—the "revelation" contained in the "good Book" so that no age has been left without its ample and unimpeachable witness. And this is all that we may reasonably demand for a revelation that is intended and destined to be authoritative, universal, and final. The destruction of the materials of books does not weigh if the contents are preserved. The impious King of Judah did not destroy the holy law of God when he utterly destroyed the parchment upon which it was inscribed. What mattered it if the "roll" was consumed since God had His faithful prophet and his scribe to produce another and ampler roll? And what matters it if a given copy, or any number of copies of a book, or of the Bible, be lost or destroyed so long as other unnumbered copies of the same are preserved beyond the reach of bad men or the destructive forces of corroding and destroying time? It does not matter, supremely, since it is the contents and not the

materials of a book that claims the supreme consideration.

The materials which embody the divine revelation have ever been subject to precisely the same exposures and vicissitudes of alternating fortune and misfortune as those to which all other literary productions have been subjected. And, furthermore, it is the well-known fact that the "autograph" copies or the first writings of the New Testament are all lost, and, probably, without the remotest hope of recovery. They are not even mentioned by the authors and writers who succeeded the Apostles as having ever been seen by them. The conclusion is forced upon us that these first copies of the New Testament writings probably all perished before the close of the first century. [The "paper" then in common use was that made from the Egyptian papyrus plant, and this all perished except that which had been fortuitously (but not miraculously) preserved in Egyptian tombs and mummy-cases or under lava-beds at Pompeii and Herculaneum. The oldest of the existing copies of the scriptures are the Sinaitic and the Vatican Manuscripts which were written in the Greek language on vellum parchment at about the middle of the fourth century, and are thus above fifteen and a half centuries old.] In view of this destruction and loss of the originals of the New Testament writings, we may "restore" the "autographs" of our scriptures only by the methods which apply equally to all literature, and which are

adequate to the approximate "restoration" of the scripture text, viz., by the translation or counter-translation of later copies and the versions, back to the earlier sources; and thus come, substantially, to the original writings.

VI

MATERIALS EMBODYING LITERATURE

THE substances upon which literature has been embodied and by means of which has been preserved and disseminated are matters of far more importance than would be supposed at a superficial reflection. They call for a larger consideration than the modern state and stage of the book-making industry might seem to warrant. Now, if a book is worn out, accidentally destroyed, or "borrowed" by some "good book-keeper" and not returned, it is usually an easy and simple matter to secure another. Not so, previous to the invention of printing. For then, the cost and time required to make a book "by hand" gave to each single copy a distinct individuality and also a correspondingly increased importance.

The two chief desiderata of a manuscript book—of a written production which was intended to give currency to a writer's thoughts and at the same time to serve as a more or less permanent depository of them—are *legibility* and *durability*. He who writes for the publicity of his ideas will not write on stone nor on clay; and he who writes for the preservation of his ideas will not write on ice or dust. And he

who writes that his thoughts may be read and understood will not write with a scrawl nor in an illegible "hand."

The foregoing observations prompt to the suggestion that not only the materials upon which a literary production is impressed or imprinted must be capable of easy conveyance or circulation but also that the writing itself must be legible, and that the materials employed must be proof to the utmost attainable extent against the obliterations of use and time. Necessarily, therefore, an achievement so laborious as the transcription of a written volume of whatever form (and especially of the Bible by reason of its size, character, and importance) called for a correspondingly larger concern and care *as to the materials employed* (including both the ink and the substance written upon) than would be required in the making of a printed book wherein each separate volume but duplicates hundreds and thousands of other volumes made from the same plates. This requirement partly explains the care with which the ancient manuscripts were made or copied. It was this fact that made every copyist's work distinctively individualistic.

The permanency and durability of books is largely a matter of relativity and fortuity. We quote from Mr. E. C. Richardson concerning the factors affecting the survival of books: "The average chance of an individual book for long life depends (1) on the intrinsic durability of its material, or its ability to

resist hostile environment, (2) on isolation." He says, further: "The enemies to which books are exposed are various: wind, fire, moisture, mold, human negligence, vandalism, and human use. Some materials are naturally more durable than others. Stone and metal inscriptions survive better than wood or clay, vellum than papyrus or paper. On the other hand, however, if isolated or protected from hostile environment, very fragile material may outlast more substantial. Papyrus has survived in the mounds of Egypt, and unbaked clay tablets in the mounds of Babylonia, while millions of stone and metal inscriptions written thousands of years later have already perished. Here the factor of isolation comes in. Fire and pillage, moth and rust, and the bookworm destroy for the most part without respect of persons. . . . An unbaked tablet which has survived 5,000 years under rubbish may crumble to dust in five years after it has been dug up and exposed to air. The general law is that value tends to preserve, and it has been remarked that all the oldest codices which have survived in free environment are sumptuous copies. Literary value on the other hand is, on the whole, a factor of destruction for the individual rather than for survival. The better a book is the more it is read, and the more it is read, the faster it wears out. The worthless book on the top shelf outlasts all the rest." ¹

¹ International Standard Bible Ency., art. "Books."

There is a department connected with some of the libraries of this or other countries devoted to the specific mission of repairing dilapidated or time-worn manuscripts or documents which, for one reason or another, it is desirable to preserve. The following is reported to be the method followed at the Wisconsin Historical Library: The first thing done is to place the document between wet newspapers under weight and leave them for several hours. This removes the creases and the dirt. They are then put between wood pulp boards and left for a day and then between blotters to complete the drying process. The next step is to repair the paper. The paper in some of these documents is so old and fragile that rough handling will destroy. Therefore it is strengthened by a sort of transparent cloth on both sides of the paper. With some, letters need to be mended along the edges with parchment paper. To cover holes a piece of paper is glued over the edges and is left larger than the holes until dry. It is then cut down to the proper size, and the edges sandpapered until it is smooth. It is then ready for mounting or filing for a continued lease of existence.

The world is greatly indebted to the early Jewish teachers for the survival of ancient written documents. The ancient Jew brought a religious devotion to the production of his sacred books—a devotion bordering on veneration, as is shown conclusively by the “rules” which governed him in their

transcription. These are indicated in the following "directions" to copyists, quoted from an old volume: "A book of the law wanting but one letter, with one letter too much, or, with an error in one single letter; written with anything but ink; or made from the skin of an unclean animal; or on parchment not purposely prepared for that use, or prepared by any but an Israelite; or on parchment tied together by 'unclean' strings, shall be holden to be corrupt. It was the rule that no word should be written without a line first drawn on the parchment; no word to be written 'by heart,' or without having been first orally pronounced by the writer; that no letter should be joined to another letter; and that, if the blank space cannot be seen all round each letter, the roll shall be 'corrupt.' There were settled rules as to the space to be left between each letter, and word, and section."² In addition to these rules we learn from another and authentic source that there were special regulations for the margins, and for the number of lines to the page, or to the column of the roll; that the sheet of the book must be sewed together with threads made of the dried tendons of clean beasts; that every sheet of the roll must be sewed to the next—that even one loose sheet makes a roll "unfit";—and that care must be taken that the needle does not pierce the letters. It is a requirement that when a scribe has begun to write the name of God he must not be interrupted till he

² Prideau's Connections.

has finished it; that a writing, when set aside to dry, should be covered with a cloth to protect it from dust; and that to turn a writing downward is shameful. It was the emphatic injunction that scrupulous care must be taken in writing the Names of God: before writing every name of the Deity, the scribe must say, "I intend to write the Holy Name"; otherwise the roll would be unfit.⁸

Scarcely less of concern was displayed by the early Christians in copying their sacred books and even the classic literature. In certain periods of the Middle Ages the value and sanctity attributed to the transcription of a book is set forth in the fact that in many abbeys every 'novice' "was expected to bring on the day of his profession as a 'religious' a volume of considerable size which he had carefully copied by his own hands," somewhat as a "thesis" is a requirement for graduation by some modern institutions of learning.

This deep concern which a copyist felt for his work—for he had a solicitude that his copy might endure both time and use and long remain as a monument to himself—lent an artistic taste and, often, a religious devotion to the creditable transcription of a book, especially to the copying of the Bible or a part of the Bible. This devotion and concern (often witnessed unto in annotations in the margin or at the close of the transcribed portion of the Bible) made a copyist scrupulously honest and

⁸ The Jewish Encyclopedia.

painstaking in his task, and was often disclosed in beautiful ornamentation and artistic embellishments. As a "royal" example, the *Codex Rossanensis*, a manuscript containing the gospels of Matthew and Mark, made, possibly, in the sixth century, though discovered in Calabria only in 1879, is written in silver characters on purple-colored vellum and has twelve miniatures of great interest in the history of Byzantine art. Another manuscript of the gospels (*Codex "N"*), the leaves of which are scattered in London, Rome, Vienna, Petrograd, and its native home (Patmos), is also written on purple-dyed vellum in silver and gold. There are fragmentary remains of a sumptuous volume of the *Eusebian Canons* which are written on gilt vellum and beautifully ornamented. In Trinity college, Dublin, there is a famous volume—the *Book of Kells*. This is conceded to be in some respects the finest ancient manuscript in Europe, having no equal as a specimen of Irish illumination and writing. It is a copy of the Gospels, written, it is believed, about the sixth century and was the possession of the Church of Kells until it came into the custody of Trinity college in 1661. A space of this book measuring three-quarters of an inch by one-half an inch, examined under a powerful microscope, was found to contain no fewer than one hundred and fifty-eight interlacements of a slender ribbon pattern formed with white lines edged by black. Professor George F. Wright refers to a remarkable Spanish manu-

script for which the late Mr. J. P. Morgan paid the sum of \$30,000 in 1910. It is an Old Latin manuscript of the New Testament, the work of a Spanish Presbyterian named *Beatus*, and by whose name the codex is known, written in the latter part of the eighth century. "What attracted Mr. Morgan was the size and beauty of the work. It was a large folio containing 184 leaves of thick vellum, each leaf measuring 21 by 14 inches; its binding was elaborate; and it contained 110 richly colored miniatures.⁴

Various factors—religious, artistic, and commercial—contributed to this movement toward embellishment. The growing wealth, at times, and the higher standards of civilization at certain stages of the Middle Ages created new demands for illuminated and embellished manuscripts. There were manuscripts with representations in water-colors in the lower margin; little pictures were inserted into the text of books; and initial letters of books or of their chapters not only reflected the writer's artistic accomplishments but also served as expository teaching upon the text itself. Of early achievements in this direction, Professor Dobschütz tells us that there were examples of sumptuous books of finest parchment in which the text was not only written in gold and silver letters but with margins covered with beautiful paintings, as in the "*Beatus*" manuscript, and cites as a conspicuous example, "A copy

⁴ *Story of My Life and Work*, pp. 403, 404.

of Genesis in Greek at the Vienna library has forty-eight water-colors, one at the bottom of each page, telling the same story as the text. . . . And this manuscript does not stand alone; it is but one of a large group of illuminated manuscripts. This sumptuous appearance may be taken as a sign of the value attached to the Bible. Persecuted hitherto, it became the ruler of the Christian empire, invested with all the glory of royalty."⁵ It has been said concerning *manuscript* books that "the missals and office books, and the prayer books made for royal personages at this time" (during the thirteenth century) "are yet counted among the best examples of book-making the world has ever seen." Of a rare and very valuable collection of books and manuscripts assembled by the late Mr. J. P. Morgan under the discriminating and painstaking direction of a Columbia University professor, a writer in a New York daily says: "Massive jeweled manuscript covers, a thousand and more years old, are there, and marvelous hand-illuminated manuscripts, their gorgeous colorings and exquisite workmanship, the result of years of toil by ancient monks and mediæval artists. Many of them were once the dearest pride and delight of kings and emperors and popes. Only potentates such as these could command the services of the men who produced most of the collection."

⁵ *The Influence of the Bible, Etc.*, pp. 30, 31.

VII

VARIETIES AND CHANGES IN THE MATERIALS OF BOOKS

THE materials upon which literature has been embodied, and the changes and improvements which these materials have undergone from age to age, opens up one of the most interesting chapters of bibliographical science and of the world's history. A knowledge of the materials successively used in the book-making industry, and of the improvements through which these have continually passed, together with the various kinds of the completed products, the style of writing (there is a "gait" of hand as well as of foot), and certain distinguishable characteristics of the literature of the different periods, all assist in fixing with approximate certainty the date at which a manuscript was produced.

In considering the materials of books it needs to be held in mind that the time of a manuscript's production was seldom affixed to it until a late date; that must be determined or inferred from collateral data. We would instance the "water marks" of manufactured paper as an example of these collateral data helping to determine the age of a manuscript. It is a well known fact that every paper

manufactory has its own individual mark of identification for its output. This is its protective "water mark" and is impressed in the texture or fiber of every sheet made, and at regular intervals in the sheet. This is by no means an exclusively modern device of authentication, for these were known as early as the thirteenth century. In the fifteenth century, when the quality of the paper was improved, the "water marks" became more elaborate and, as early as the sixteenth century, the name of the maker of the paper was inserted. These marks of identification greatly aid the antiquarian student in fixing the date of any writing. They are often, too, of legal significance, inasmuch as important cases in courts of law in our times—and earlier times—have been known to turn upon such facts of evidence as the "water marks" of the paper used in documents, as other cases have turned upon the kind or quality of the ink or the "hand" in which the documents at issue were written. An incident narrated in a book by Dr. N. D. Hillis may not be historical though it does illustrate what has often actually occurred: "In looking at the thick white paper, upon a sheet of which the guide said that the deed had been written, John noticed that it was the usual parchment paper of the time—a paper strong, and made of linen, so that it might survive the rough usage of the settler's cabin. Holding it up between his eyes and the sun he noticed this water-mark and stamp—'C. Saur, Philadelphia, 1787.' The purported deed

was dated 1740.”¹ The press dispatches some time ago reported a case before the Senate in one of our states in which the conviction or the acquittal of the defendant turned, largely, upon the quality of the ink which had been used in signing a certain check, given in payment of a claim. It was admitted by experts on both sides that the ink employed in signing the check was of a different quality than that upon which the stub of the check had been filled out, and that the writing on stub and check, respectively, had not been made at the same time.

It is evident then that the materials themselves and the changes through which they passed in the process of their improvement, the ink and its constituents, the “hand” of the writer and, as well, the peculiarities of the author’s style of thought and expression as evidenced by his other and well-known composition (there is a “gait” of mind as well as of walk)—all become, so to speak, the “water marks” which determine or help to determine, approximately, the time at which a book or writing was made or produced. To illustrate: If the antiquarian should “unearth” a manuscript having evidences of great antiquity and should ascertain that it was written upon “cotton paper” that fact would assure him, without any additional evidence whatever, that the document could not be much, if any, earlier than the ninth century, for it was then that cotton paper began to displace the Egyptian papyrus.

¹ The Quest of John Chapman.

Or, if the writing was upon "linen paper" then he would be assured by the same kind of evidence that, probably, it was not made before the fourteenth century when paper made from linen rags first came into more common use.

VIII

PARCHMENT AND VELLUM

THE skins of animals—sheep, lambs, and calves, and, sometimes, of antelopes, goats, asses, and swine—have served, and from the earliest use of written language, as the favored and the best material upon which to write. By different modes of treatment the skins of animals were converted into “leather,” “parchment,” and “vellum,” respectively, as the finished product. *Leather*, tanned soft, and usually dyed red or yellow, was the material earliest used by the Hebrews. Upon this they wrote their statutes and religious history, and especially the Scroll of the Law. The Yemanite Rolls (Pentateuch and other writings) are all of red skin; and the Pentateuch rolls for the Jews of a certain section of China are of white leather.¹ According to Ctesias and Herodotus, the royal archives of ancient Persia were written on leather. Extant leather rolls are ascribed to the date of about 2,000 B. C. And there are treasured skin-rolls, in the British Museum and elsewhere, which are believed to have been prepared and inscribed as early as 1,500 B. C.

¹The Jewish Encyclopedia.

Parchment, also made from skins, was prepared by a different process than the tanning of leather. The word "parchment" comes from the name of the city of ancient Mysia—Pergamos or Pergamum—where its manufacture was originated and was carried on for centuries. Parchment, though known for centuries before the Christian Era, was used by the Greek and Roman writers to only a limited extent for a period of some centuries, owing to their continued preference for the papyrus production. The more general use of parchment was finally accelerated by necessity, and on this wise: Ptolemy Philadelphus (prompted perhaps by envy for the growing literary achievements of the kings of Pergamos and by jealousy for the supremacy of Alexandria) laid an embargo upon the exportation of the papyrus, then exclusively produced in Egypt. This restriction necessitated and accelerated the manufacture of parchment and thus stimulated its use, though papyrus continued to be, until after the beginning of the Christian Era, the more common and the cheaper though less durable material for receiving and perpetuating literature.

Parchment is not only one of the earliest—and the very best—but next to the baked tablets, the most durable material for all written productions. The employment of parchment to record and preserve literature spread from Pergamos throughout Europe and, because of its superior quality and its greater durability, came into the preëminence which

it held until the invention of paper. Most of the existing manuscripts of a greater age than the sixth century are written on parchment. Indeed, its use for important and valuable documents, as embossed records and resolutions of respect, and diplomas and the like, has survived unto the present time.

Vellum is the designation for a finer quality of writing material made from calf skins or skins of antelopes. Some of the oldest, best, and clearest of the existing copies of the Bible—notably, the Vatican and the Sinaitic manuscripts—are written on vellum.

The skins of animals, however prepared to receive writing, were cut into strips and, at the first, were fastened together in a continuous roll—sometimes to the extent of a hundred feet or more in length. The last strip of the manuscript was attached to a reed or stick, called the *umbilicus*, around which, somewhat as a mounted map or a window-shade, the whole length was rolled. It is to be remembered that the first books, whether of parchment or papyrus, were not made up of leaves and pages but of rolls—were, literally, “volumes.” These rolls were written usually on but one side of the material, in narrow, cross-wise columns. A volume was unrolled and re-rolled, as read; was “closed” by rolling it up around the *umbilicus*; and was “fastened” by tying it with a string—was often “sealed” with wax. [In the book of Revelation (5:7-9) there is portrayed the breaking of the

“seals” in order to read the contents of the book.] The Hebrew scriptures, used in the synagogue worship, were “books” of this form, as likewise was the “book” referred to in the fortieth psalm, “In the volume of the ‘book’ it is written of me.”

It is not determinable, either at what time or for what reasons, the change was made in the form of the manuscript from the continuous roll to the book of separate leaves. As we have noted, it is the fact that “necessity is the mother of invention,” the world over and throughout history. It is also the fact that the improvements of inventions have ever been the order of development, inasmuch as few inventions, if any, in any age or realm, have ever come into existence full-grown—are other than improvements, and sometimes after long and patient and untiring persistence, upon earlier and it may be crude and imperfect originals. Thus the improvements in the preparation of skins and papyrus, making it possible to use both sides of the materials, doubtless facilitated the transition to the book of leaves and pages. This change was gradual and was furthered or even occasioned it may be by utilitarian demands, or was prompted by economy in the use of book-making materials which were constantly enhancing in value. Professor Dobschütz has this to say concerning the change from the papyrus roll to the parchment book: “The use of this latter form seems to originate in the law schools; the codex, or parchment book, is at first the desig-

nation of a Roman law-book. But at an early date the Christian Church adopted this form as the more convenient one and gave it its circulation."² The fact that parchment and vellum increased in cost and became less and less available as writing material led to the custom, during periods of the Middle Ages, of transcribing one work over another, and after the earlier had been obliterated. This "composite" writing was a "palimpsest," called, technically, a *codex rescriptus*, and many times obscured or destroyed an ancient and valuable production. Some of these "palimpsests," though fragments of ancient literature, both sacred and classic, are valuable and have been "recovered" or restored by the use of chemical re-agents coupled with the all but infinite patience of the decipherers. A commentary of the Psalms by Augustine, written over Cicero's "De Republica," and a treatise of little value by a Syrian monk, Ephraem, superimposing a valuable fifth century manuscript of the New Testament, are examples of palimpsests in classic and Biblical literature. Some of the writings of Livy and certain books of Pliny the Younger have been recovered from superimposed writings of little or no historical value. Two facts concerning the change in the form of manuscript books are demonstrable: (1) That the first books were "rolls" or "volumes"; and (2) that, early in the Christian Era, books of "leaves" had come into relatively common use.

² The Influence of the Bible, Etc., p. 29.

It is not an insignificant fact that the earliest manuscripts in the form of books with leaves show the largest number of columns to a page—approximating thus more nearly the continuous columns of the earlier “roll” book. In other words, the earliest and best known of the Greek manuscripts of the Bible—the manuscripts which are most relied upon by the scholars for all critical, scriptural study—the codices known, respectively, as the “ \aleph ,” or the Sinaitic, treasured at Petrograd; the “B,” or the Vatican, kept at Rome; the “A,” or the Alexandrian, deposited in the Manuscript Room of the British Museum; and the “C,” or the Ephraem, the famous “palimpsest” preserved in the National Library at Paris (all of them written in the fourth and fifth centuries) are “books” of leaves—the one most similar to the ancient “roll” book in form and arrangement of the pages being, presumably, the oldest.

It has relation to our discussion and is of illustrative interest and value while considering ancient literature to note, in this connection, some characteristics of these preëminent manuscripts of the Bible to which we have just alluded. The Sinaitic Manuscript—one of the most valuable copies of the scriptures in the Greek tongue—was unearthed by Professor Tischendorf in the convent of St. Catharine, Mt. Sinai, in 1859, and dates, in the judgment of the critics, from the middle of the fourth century A. D. This Manuscript is transcribed on

346½ leaves of vellum, each leaf being 13½ inches in width and 14⅞ inches in height and contains four columns of 48 lines each to a page, or eight columns to the open book. The Vatican Manuscript, written at about the same time, has three columns to a page, or six columns to the open book. The Alexandrian Manuscript, written in the fifth century, has two columns to a page. The Ephraem Manuscript, also written in the fifth century, has but a single column to a page. The Sinaitic Manuscript, because of its distinction in having the largest number of columns to a page, has been given, by some of the Biblical scholars, the first rank among the oldest extant copies of the Christian scriptures. The basis for this estimate is, largely, its nearer approach to the ancient rolls with their cross-wise columns.

IX

PAPYRUS

THE commonest material upon which to write the records of history and all literature for some centuries, both before and after the time of Christ, was that manufactured from the papyrus plant, or reed, which grew in great abundance in the stagnant pools occasioned by the annual overflow of the Nile;—it grew also in the marshes of the Euphrates, and elsewhere, though for centuries the only source of the papyrus for literature was in Egypt.

Papyrus as a material upon which to write was both cheaper and more plentiful than parchment, and for these reasons it was more commonly utilized than any other prior to the invention of paper. The papyrus, while more plentiful and less expensive than parchment, was not inexpensive as a finished commodity; indeed, it was so expensive that the poor were often denied this material for writing. It is recorded that, in the list of expenses relating to the rebuilding of the Erechtheum at Athens (B. C. 407), two sheets of papyri cost at the rate of a drachma and two obols each, or a little over a shilling of our money.¹ The author of an old work

¹ Greek Papyri, Prof. Geo. Milligan, D.D., p. xxiii.

gives a quaint description of the plant and of its preparation for use: "It runs up in a triangular stalk to the height of about fifteen feet and is usually about a foot and a half in circumference, sometimes more. When the outer skin is taken off there are several films, or inner skins, one within another and naturally partakable from each other. These, when separated from the stalk and flaked, made the paper which the ancients used, and which, from the name of the tree, they called Papyrus."²

Concerning the process of its preparation, as we learn from various sources: The inner skins or fibrous rinds of the plant were peeled off, somewhat as the outer bark of a birch tree may be detached, and then these strips of the papyrus were placed one upon another so that the "grain," or fiber, of each strip would extend crosswise to the other—sometimes three layers, even, were superimposed one upon another—after the manner of the modern two or three-ply wood veneering. The purpose of this process was to give greater strength and durability to the writing material made therefrom. The glutinous juice in these strips, (or, perhaps they were moistened by the waters of the Nile) on being subjected to pressure were glued together in one intact sheet. These larger sheets were afterwards smoothed and polished, bleached in the sun, and then cut up into strips to the dimensions of eight, twelve, or even fifteen inches in width as desired,

² Prideau's *Connections*, Vol. 2, p. 510.

for the rolls, or, as at a later time, into short, rectangular sections for the leaves of books.

The writing on these rolls, as on those made of parchment, was in columns, crosswise at convenient intervals, with a margin at the top and the bottom of the columns. The length of the column lines of writing was governed by the writer's taste or inclination, or the character of the composition—if poetical, by the metre. The size of the rolls, however, was determined by the amount of writing to be recorded—one of the longer books of the New Testament; *e. g.*, would constitute an ordinary roll, while it would require thirty or forty or even more rolls on which to transcribe the entire Bible. According to BIRT, the average length of the papyrus roll slightly exceeded forty feet, but instances are cited of rolls reaching the length of one hundred and fifty feet. This writer is authority for the statement that a Homeric papyrus roll one hundred and twenty feet in length was burned in Byzantium in the fifth century. Mr. Putnam observes in connection with the size of the papyrus rolls: "It is possible the writer of the Apocalypse may have had one of these enormous scrolls in his vision when he beheld the record of the sins of Babylon reaching to the heavens."³ The larger papyrus books were thus, literally, "weighty tomes," and, because they were too heavy and cumbersome to hold in the hand, were read from a table or desk. The cumbersome

³ *Authors and Their Public*, p. 142.

character of these large volumes was the basis for the dictum of the Alexandrian grammarian, "A big book is a big nuisance."

At a later period, not determinable, the papyrus writing material was no longer made up into roll form but was cut into rectangular sheets of various dimensions, according to the taste of the writer or the special need, and was then bound together somewhat as a modern book. Sometimes, when greater durability was sought, the writer or copyist would insert a leaf of parchment at every five or six leaves of the papyrus. This added greatly to the durability of the book. There are examples of books thus "reinforced" which have resisted the destructive influences of time and use for twelve centuries together. The fragile and extremely perishable character of the papyrus makes it most remarkable that any writing thereon should have survived for centuries; indeed, according to Pliny, a volume two centuries old was considered so exceptional as to be almost incredible. It was the perishable character of this material that made the frequent renewal of manuscripts handled a constant necessity, and hence the occupation of the copyists and the department of reproduction in the libraries were logical. The fragile character of the papyrus led, also, to the frequent use of a wooden case, called a *capsa*, to protect and preserve the roll. It was under very exceptional conditions only, as in mummy-cases of Egyptian tombs where they escaped the touch of man and,

almost, the touch of time as well, and, as hermetically sealed under lava beds at Pompeii and Herculaneum, that the fragile papyrus was sometimes preserved for centuries.

The earliest known papyrus manuscripts date from the time of the twelfth dynasty of Egypt, or from a period of more than two thousand years before the Christian Era began. These oldest existing papyrus documents yet discovered are written in Egyptian—in three characters—in *hieroglyphics*, the most ancient or the picture-writing of the earliest times (translatable by the decipherment of the Rosetta Stone), in the *hieratic*, or the writing of the priests of Egypt from the period of the fourth or fifth dynasty (3124-2744 B. C., Lepsius) on to the third or fourth century of the Christian Era, and in the *demotic*, or the later and popular form of the priestly writing. In general, however, the papyrus period of the Egyptian literature extended from the fourth century B. C. to the fourth century A. D.

The extensive use of the papyrus as writing material is evidenced in the fact that an important commerce therein extended over a large part of the civilized world as early as the third century B. C., and continued to be a source of wealth to the Egyptians for centuries after the Christian Era had begun. In fact the use of papyrus continued, although interrupted greatly by the Saracen conquest and the embargo laid upon its importation into

Pergamum by the Ptolemaic rulers of Egypt, until it was superseded by the manufactured paper as it progressively came into use. (Isaac Taylor.)

X

PAPER AND ITS MANUFACTURE

IT is the conclusion now accepted generally that the Chinese made and used paper for writing purposes from a remote period of the past—from before the beginning of the Christian Era. “The Chinese are credited with the discovery of the art of paper-making by the use of fibers reduced in water to a pulp. Their raw materials were the inner bark of the mulberry tree, bamboo, rice straw, rags, etc.”¹

Paper was distinguished from the papyrus in that the substances from which it was made were not used in their natural state, as the papyrus was, but were manufactured from the raw material which was first reduced to a pulp, then disposed in sheets, and subsequently finished for use. In lapse of time many different kinds of substances were employed as raw material or the basis of the finished product. At the Paris Exhibition in 1889, a paper-maker showed more than sixty webs, or rolls, of paper, each made from a different vegetable fibre: and sample-books have been published which were composed of several hundred leaves, all of different fibre.²

¹ Appleton's New Practical Encyclopedia.

² Chambers' Encyclopedia.

It is somewhat the "irony of fate" that no account of the origin of paper has been reliably recorded. Much of the reputed history of the art, or the invention, is only conjectural. The fact is that, however remote the time and place of its beginning, paper first became available to the world of letters in the eighth century. The Arabs, having acquired the art of making it from China (through Chinese prisoners, it is said) brought its manufacture into Arabia in the eighth century and, later, carried it into Europe by way of northern Africa. The comparatively large number of Arab manuscripts, preserved from the ninth century, is evidence of the extent to which paper was adopted and used for their literary, scientific, and religious records.

The Moors by their conquest of Spain in the eighth century brought their civilization and its benefits into western Europe and, at a later time—at about the twelfth century—introduced the manufacture of paper therein. The industry spread, later, from Spain into Italy and Sicily, and came eventually into the hands of the Christians, under whose less skillful manipulations it suffered deterioration in quality. At a still later date, its manufacture extended into southern and western Germany and into the Netherlands, England, and France.

Cotton paper was first manufactured from the natural product; but later, as the industry was extended to regions where cotton was not grown and

into which it was not imported, other substances were used instead of the raw cotton. "In Spain," it is said, "flax was the first material used, then cotton." The practice of mixing rags—first woollen, then cotton, and later linen—gradually came into use. Near the close of the eleventh century (1085) is designated as the date when rags were first used for paper in Spain; linen paper appeared in 1100. "From the time rags began to be used in Europe they rapidly displaced other materials on account of the double use of the fibre composing them (used first for clothing or domestic purposes). Rags held sway in the paper industry for many centuries, but not entirely to the exclusion of numerous other materials."³

Linen paper, though known much earlier, came into general use in the fourteenth century. It was manufactured not only in response to the demand for improvement which characterizes all inventions but because linen was then less expensive than cotton. The earliest existing document on paper is a deed of King Roger of Sicily, 1102 A. D. There are other documentary records of Sicilian kings during the twelfth century. "The manufacture of paper from linen rags," says Thalheimer, "was a humble but essential antecedent to the art of printing, for the costliness of parchment or vellum was as effectual a barrier to the multiplication of books as the labor of transcribing them." Even before the

³ *The Americana*.

Christian Era, the cost of books was largely the cost of the material—papyrus—upon which they were mostly written. Mr. Putnam suggests that "if printing had come into Europe in the first century, the world might to-day be buried under the accumulated mass of its literature"—no, not unless the invention of paper had been coterminous or had preceded.

All other and earlier materials for the embodiment and preservation of literature were eventually superseded by the manufacture of paper. Concerning the displacement of other materials, there is good authority for the claim that "in the second half of the fourteenth century the use of paper for all literary purposes had become well established in all western Europe; and in the course of the fifteenth century it had gradually superseded vellum. In manuscripts of this latter period it is not unusual to find a mixture of vellum and paper, a vellum sheet forming the outer and inner leaves of a quire while the rest are of paper."⁴

And thus the invention of paper and the successive improvements in its quality consequent upon the improved methods of its making, prepared the way for the printing-press—an invention the importance of which is beyond estimate and the relation of which to literature baffles comparison. But the manufacture of paper, notwithstanding the fact that it has shared in many and important improvements,

⁴ *Encyclopedia Britannica* (Eleventh Edition).

continued to be made laboriously by hand up to the beginning of the nineteenth century.

The manufacture of paper has now reached a stage, it would almost seem, of unimprovable excellence. In what is known as the "India" paper there is combined, to a superlative degree, the paper-maker's science with the artist's skill. It is called "India" paper "owing to the prevailing tendency to describe as 'Indian' everything coming from the Far East," whence it was brought to England as early as 1841. This paper is not only thin and light but also tough and strong and has an opacity which makes it ideal for the printing of books (especially the Bible) where it is desirable to reduce the weight and bulk without diminishing the size of type or sacrificing beauty of typography and serviceability. It combines maximum durability and capacity with minimum dimensions and weight. Two facts will illustrate the foregoing observation: (1) There is an edition of the Bible, containing the Authorized Version complete in every particular, reduced within the dimensions of one and a-quarter, seven-eighths, and one-half an inch—or a little less than fifty-five one-hundredths of one cubic inch. It is hardly necessary to say that it can be read only by the aid of a magnifying lens. (2) And in an advertising booklet setting forth the excellencies of an edition of the *Encyclopedia Britannica* there is given a remarkable test of the capacity of the India paper to endure severe usage. A sheet from a volume was folded

in strips and tied in knots, drawn through a lady's finger ring, crumpled into a tight ball, then opened out and ironed to its original state of finish.

The tests to which the "India" paper was subjected at the Paris Exposition in 1900 also show its most remarkable capacity. In those tests a volume of 1,500 pages was suspended for several months by a single leaf as thin as tissue and, at the close of the exhibition, it was found that the leaf had not started, the paper had not stretched, and the volume closed as well as ever. A strip of this paper, three inches wide, sustained a weight of twenty-eight pounds before yielding. This indicates its extreme tensile capacity. By the use of this paper a book of a thousand pages may be brought within the limits of three-quarters of an inch in thickness—the paper being of such degree of opaqueness as to make possible a beautiful typography on both sides of the sheet and of such strength and durability as to sustain long continued use. The following is a publisher's advertisement of a teacher's Bible: "Printed on genuine India paper, which measures only five-eighths of an inch to 1,000 sheets, making a beautiful, light-weight, convenient book." The fine editions of the Bible (for use and not as a curiosity of the printer's art) and the great Encyclopedia Britannica, printed on India paper are conspicuous examples and embody both the paper maker's science and the printer's art.

XI

OTHER MATERIALS OF LITERATURE

BESIDES the materials already mentioned, other substances were utilized upon which to impress or embody literature or any historical data. Thus, sections of the bamboo; the leaves and bark of trees and plants as the linden, birch, and the palm; tablets of wood, ivory, gold, bronze, tin, lead, and wax; sheets of silk and linen; sun-dried and fire-burnt bricks; tablets and cylinders of clay; and slabs and stelai of stone, were each and all used in variable proportions, according to taste or necessitous conditions. Of the materials used in picture writing of the ancient Aztecs of Mexico, Prescott says: "The manuscripts were made of different materials, cotton cloth or skins nicely prepared; a composition of silk and gum; but for the most part a kind of paper from the leaves of the maguey."¹

Some of these materials were used transiently and in small areas; others of them were widely used and for a long period of time. Mr. G. H. Putnam instances the case of wax tablets which were known to Homer as being still in use among the Romans

¹ Conquest of Mexico, Vol. 1, p. 102.

twelve hundred years later. In Palestine and Phœnicia and, indeed, in many places if not everywhere, the earliest writing was on stone, of which the famous Rosetta and the Moabite stones and the inscriptions cut on temple walls, gates, stone cliffs, and monuments, as in Egypt, Assyria, Persia, and Crete, and in the western hemisphere also, are examples from the remote past. In Assyria and Babylonia clay was all but universally employed as the material upon which to write, and because it was everywhere available. Clay was the material at hand and was used for vari-sized tablets and for hollow hexagonal or octagonal cylinders.

[In this connection it will be of interest to note two important "finds" of the cuneiform writing which have recently been brought to light in Upper Egypt and in Babylon, respectively. There was discovered in 1891-92, by Professor Petrie, at Tel-el-Amarna, above the city of Cairo on the east bank of the Nile, a body of tablets—over three hundred in number—written in cuneiform or Babylonian characters. The scholars were astonished at finding this collection in Egypt, so remote from the home of the cuneiform writing. The inscriptions on them increased their surprise, for these tablets were written in Jerusalem, Tyre, Gezer, and other cities of Palestine and Syria and sent by these subject peoples to their Egyptian masters and rulers. They show, as Professor Sayce holds, that writing on tablets was, at least in the time of the Eighteenth Dynasty

of Egypt (1,000 B. C.), the normal form of official correspondence between Egypt and her foreign provinces.² The greater part of these tablets were purchased for the Berlin Museum, though quite a number of them were secured for the British Museum. (Encyclopedia Britannica, Eleventh Edition.)

The other important "find"—an elaborate monument of early civilization and embodying, perhaps, the most ancient of all codes—was that discovered on the acropolis of ancient Susa in Persia during the winter of 1901-02 by the French Expedition. This discovery consisted of three fragments of black diorite stone and constituted, when fitted together, a monument nearly eight feet in height. This monument embodies a bas-relief of King Hammurabi receiving the Laws from the sun-god, and an inscription of about four thousand lines (the longest inscription yet discovered) arranged in forty-four columns, engraven on the *stèle* in cuneiform characters as were the Tel-el-Amarna tablets. It is believed by the scholars that this Code was set up in the principal cities of the realm and was designed to be read and observed by the King's subjects. This Hammurabi (identified by most Assyriologists as the Amraphel of the Old Testament, Genesis 14:1) was the sixth king of the First Dynasty of Babylon and reigned for fifty-five years, about 2250 B. C. He was a great scholar and a pious and god-fearing King who codified existing laws and had them widely

² Monument Facts, Etc., pp. 37-40.

promulgated.³]

Wood was used in some countries as the material upon which to write or carve records and laws. The mummy-cases were both written upon and carved with Egyptian characters and the laws of Solon were inscribed on tablets of wood. The word *codex* which has come to have different significations meant, originally, the trunk of a tree but came to be the designation for a wooden tablet coated with wax for writing purposes. Pliny is authority for the statement that the bark of trees was used for writing upon before the papyrus was adopted for this purpose. It is held that in China writing was very early made permanent on sections of the bamboo, being burned therein by a heated metal stylus somewhat after the fashion of the modern pyrography; this material was displaced, however, in the third century B. C. by silk or cloth, and these, in turn, were superseded by a kind of paper made from the inner bark of the mulberry tree, bamboo fibre, and other substances which came into extensive use during the Han Dynasty (206 B. C.-25 A. D.) and, under the incentive of which, as we are told, an extensive imperial library of the reigning house was collected. And, to the present day, palm leaves are used for writing material in parts of India.

Besides the simpler arrangements of the materials, as in the roll, tablet, or leaf, there were arrangements of the material more resembling the

³The Code of Hammurabi, R. F. Harper, Ph.D.

book form of to-day, as in the diptych and the triptych. The *diptych* was made of two tablets of wood or of other material and resembled our double slates, having the tablets for the writing sunken below the protecting edges. These were hinged together and covered on their protected sides with a coating of wax. On this wax surface the Greeks and Romans wrote with a stylus. The writing could easily be obliterated by simply melting the wax, when it became a prepared plate for another inscription. The *triptych* and the *polyptych*, as the respective words suggest, consisted of three or four or more leaves hinged together and made available for literary or other inscriptions, after the manner of the diptych.

XII

INKS

ANY reference to the literary productions of the past and to the materials preserving and perpetuating written records, including the Bible and sacred history, would be deficient were the qualities of the early inks disregarded. The very ink in which the ancient literature, sacred and classic, was embodied had an importance scarcely, if any, less than the materials upon which the writing was impressed or recorded. The task of transcribing a book, *e. g.*, the Gallic Wars, the Epic of Virgil, or the Bible, was an undertaking of so great magnitude that the conservation of energy, if nothing else, taught the importance of securing and using an ink that had "staying" qualities. No sensible person, no matter when or where he might live, would be apt to spend the time required to copy the Bible in its entirety (a task necessitating the labor of a skillful calligraphist for nearly three years) when all his work would soon be wasted by reason of an impermanent ink.

The makers of the inks used in the early ages had a skill and knowledge in the mixing of pigments or in compounding the ingredients of their inks undis-

covered, as yet, and unequaled in modern times. The superiority of the inks known to the ancients has long been the object of surprise and admiration. The inscriptions on mummy cases, made at a time long antedating the Christian Era, and the writing on manuscripts made in the early centuries of Christian history, in addition to the beauty of the form and finish of the writing, have a freshness of appearance as though they were only of years' instead of centuries' duration. "The survival of papyrus rolls containing the text of the Egyptian ritual known as 'The Book of the Dead,' dating back fifteen centuries B. C., and accompanied with numerous scenes painted in brilliant colors, proves how ancient was this very natural method of elucidating a written text by means of pictures."¹ And among the ancient archæological treasures recently discovered in Crete are stucco designs, the colors of which are almost as brilliant as when laid on, over three thousand years ago.

The composition of the earliest inks has not yet been obtained and, likely, is unascertainable. The first inks are supposed to have been made from *sepia*—the secretion of the cuttle fish—or was composed of a mixture of soot and gum. Later, inks were prepared from the apples of the gall-oak, and from other materials—vegetable and mineral.

Inks of various colors and kinds—red, purple, green, and blue, and, occasionally, of gold and silver

¹ Encyclopædia Britannica (Eleventh Edition).

—were often employed. The different colored inks were used, respectively, for the in-filling of characters and letters cut in stone and the like; for the ornamentation and embellishment of mummy-cases and manuscripts; for titles and initial letters (especially in the later centuries); for the purpose of emphasis by contrast with other inks; for marginal notes by a later hand (guarding thus against accidental alterations or interpolations of the original writing); and to agree with the esthetic taste of the copyist or his own notion of the value or the importance of the production, as is seen in some beautiful copies of the Bible or portions thereof and in other literary productions of the manuscript age. (See pages 51-54.) The ink used on the early papyrus such as "The Book of the Dead," was usually of a deep, glossy black color though occasionally other colors are also found.

Concerning the picture-writing of the ancient Egyptians, Mr. Wallace Budge of the British Museum says, "Where it was possible the scribe represented an object in its natural colour; he made the moon yellow, the sun red, trees, plants and all vegetables, green; but objects requiring out of the way colours were not so well done, owing to the comparatively limited supply of colours at the disposal of the scribe."² In China, during the third century B. C., a dark varnish was employed to paint on silk and bamboo, a brush being used in its application.

² *The Dwellers on the Nile*, p. 41.

India ink came into use in China in the seventh century A. D. The beautiful black ink, known to the ancients, greatly deteriorated in quality in the Byzantine period, which may have occasioned the restriction of the red ink to the emperor's exclusive use, as at a later date the purple became the royal color.

Attempts made by chemical analysis and the use of reagents to discover the ingredients of the inks used by the ancients have not yielded very definite results. Beyond some general conclusions as to the components of the first inks, there is little more than conjecture, and it now seems that their manufacture must be classed as one of the lost arts.

XIII

IMPLEMENTS OF WRITING

THE implements used for writing necessarily varied in the different ages and diverse civilizations according to the character of the materials successively used and the nature and stage of the civilization. When inscriptions were made in stone of any sort—sand-stone, marble, granite, basalt, or other stone—or in wood, a *chisel* was the tool. When the material used was lead, ivory, wax, or plastic clay,—bricks, tablets or cylinders—a *stylus* was used. The stylus was made of bone, ivory, or metal, according to the requirements or tastes in the case. When the writing was with ink, upon leather, parchment, papyrus, paper, and kindred substances, a *pen*—of silver or from a reed or quill—was employed as in modern times. Pens of bronze have been found in tombs. *Brushes*, too, as in China, were used in recording literature. The “*pen-knife*,” for fashioning pens from reeds or quills; the *pumice* stone, for erasures and smoothing the material to be written upon; the *ruler* and *compasses*, for indicating the lines of writing; *scissors*, *sponge*, and *ink-stand* (the “writer’s ink horn,” Ezekiel 9:2, 3), sometimes double for different colored inks; and the

palette, containing small hollows for the various kinds and colors of inks used, were all paraphernalia of the copyist's profession.

XIV

THE ART AND SCIENCE OF PALÆOGRAPHY

PALÆOGRAPHY is defined as "that department of historical science which treats of ancient writing." "In the study of handwriting," it has been said, "it is difficult to exaggerate the great and enduring influence which the character of the material employed for receiving script has had upon the formation of the letters." Whether the material was clay, waxen surface, or papyrus, largely determined the formation of the letters. In the broad sense in which it is used in our discussion the term applies, not only to all written records whether upon rolls or codices and without regard to the material, or their form and content, but also includes *epigraphy* which has to do with inscriptions on monuments or seals, and *numismatics* which, specifically, designates the inscriptions of coins.

Palæography is both an art and a science. Modern penmanship, while commonly regarded as more of an art than a science, is, in reality, less an art than a science. Indeed, in a broad and a not unwarranted generalization, present-day handwriting is seldom either an art or a science, but rather a desultory and questionable though necessary accomplish-

ment. The invention of the typewriter has not added, in general, to the achievements of penmanship. Penmanship is one of the almost universally neglected sciences of modern times. Unquestionably, if there were more of the "science" of penmanship taught and practiced, and more time and attention devoted to its study and its cultivation, we would have more of the art of handwriting to delight our esthetic sensibilities.

The science of palæography, being related fundamentally to language, links us with prehistoric times. Writing is crystallized speech in visible record, as the phonographic "record" is speech in audible perpetuity. (The author once had the great privilege of hearing the voice of Mr. Gladstone in a thrilling address before the House of Lords;—it was a phonographic "record.") Speech is the most distinguishing of all man's characteristics;—long held to be such. Mr. Huxley once likened human speech to the "Alps or Andes—high over everything else in animal life." Intelligent speech is the broadest line of cleavage to a tenable evolutionary hypothesis of man's origin and development. The capacity of speech at once and forever differentiates man from, and elevates him to, a plane above all other of the manifold creations of God. While speech must be recognized as the most distinguishing faculty of man, writing may be considered the noblest achievement of man. Handwriting may also be regarded the vehicle of expressing and

the mode of treasuring and communicating to distant times and places the conceptions of the mind by means of symbols—symbols representing objects or sounds and thus ideas in all their wide applications.

Concerning the genesis and the development of handwriting (and handwriting is a development—a development from very rudimentary beginnings) Professor Edward Clodd, F.R.A.S., says: “The use of writing is to put something before the eye in such a way that its meaning may be known at a glance, and the earliest way of doing this was by a picture. Picture-writing was thus used for many ages, and is still found among savage races in all parts of the globe. On rocks, stone, slabs, trees, and tombs, pictures were employed to record an event or tell some message. In course of time, instead of this tedious mode, men learned to write signs for certain words or sounds. Then the next step was to separate the words into letters; and so arose alphabets. The shape of the letters of the alphabet is thought by some to bear traces of the early picture writing.”¹ The late Wm. Frost Bishop, D.D., affirms with more of positiveness: “Every letter was at first a picture and perhaps it is but a return to first principles when the children are taught to say, ‘O was an Orange, S was a Swan, B was a Butterfly’; or when the alphabet invokes the aid of both pictures and poetry,

¹ *Childhood of the World*, p. 13.

'A was an Archer, who shot at a frog;
B was a Butcher, who had a great dog.' "

And the eminent Egyptologist, M. Emmanuel De Roget, has shown from sources antedating the Shepherd Kings in Egypt that the letters of the mother alphabet were but modifications of the earliest Hieratic or *priestly* script as these were modifications of the picture-writing upon the oldest monuments of Egypt. The alphabets of all languages are thus traced back, step by step, to the pictured hieroglyphs from which they have all come. The alphabets of the world are akin, as they all had one common parentage in the picture-writing of the Egyptians.

There have been developed in the long course of time—how long can only be approximately determined—three somewhat independent though not unrelated sources of literature whence all written language has been evolved. These three sources emerge in history, whatever the genesis and however the process, respectively, in the hieroglyphic, the cuneiform, and the alphabetic writings.

(1) *The hieroglyphic writing.* In Egypt, and probably in Accadia, the hieroglyphic or picture-writing was the earliest mode of expressing ideas. The new world, also, presents a similar phenomenon, as some of the tribes of the ancient Toltecs of Mexico developed a system of picture-writing resembling somewhat that of North American Indians and akin

to the ancient hieroglyphs. With Egyptians this term means, literally, the "sacred" writings. The late Amelia B. Edwards, an Egyptologist of recent years, defines the hieroglyphic or "ideographic" writing as "pictures of objects arranged for the purpose of conveying sequences of ideas, but without any of the connecting links which language supplies." And of picture-writing—in recognition of the universal limitations of this earliest form of written records—one connected with the British Museum says, further: "Picture-writing, moreover, could only place images and symbols side by side, and leave the connection between them to be guessed at or imagined; it could neither show the distinction between the different parts of speech, nor note the flexions and tenses of the verbs and the number and case of the nouns, nor fill up the gaps of thought with adverbs, conjunctions, pronouns, etc." ² The earliest literature of Egypt was recorded in this picture-writing wherein symbols and delineations were cut into or written on stone, as on the obelisks; or in wood, as in the mummy-cases; or were written or painted on papyrus, as in "The Book of the Dead," deposited with the mummies of royal personages in their entombment. Some of these papyri are of very great age. One of these, The Prisse Papyrus, so named from its procurer, is held to be the oldest papyrus in existence. It was found near the middle of the last century in a Theban tomb of the eleventh

² *Assyrian Life and History*, p. 40.

dynasty and is thus older by centuries than the time of Moses and perhaps antedates the time of Abraham. This Papyrus consists of eighteen pages of beautiful hieratic (priestly) writing and is treasured in the National Library at Paris.

The last century of our Era witnessed two of the most important achievements of human ingenuity in relation to literature: the decipherment of the hieroglyphics of Egypt and the cuneiform script of Assyria and Babylonia. Both these remarkable achievements are credited to the last century and have added immeasurably to our knowledge of early historical times, corroborated and confirmed much that was obscure and uncertain of the Bible narrative and its teaching, and opened up to the gaze of all men for all time to come the most valuable records of a vast period of human history which otherwise would have remained in unrelieved obscurity. These achievements were the decipherment of the Rosetta Stone and the cuneiform writing.

The hieroglyphic writing was of two classes; called *ideographic* in which ideas were denoted by signs or pictures and *phonetic* wherein sounds represented ideas. In the ideographic hieroglyphs which were the older—this being the parent writing—the picture of an object expressed the idea of or represented the object itself. A fish, *e. g.*, was denoted by the outline drawing of a fish; an obelisk by the picture of that object; a vulture by the delineation of that bird, and so on. Sometimes, how-

ever, the cause was put for the effect, and vice versa: thus a palette and reed would commonly represent "writing"; it might also represent a "scribe." Dishevelled hair might represent "grieving," because in the time of trouble the hair of the head would be apt to be disturbed and uncared for. At a later date these ideographic hieroglyphics or pictures representing ideas, by a process of development from the basis of pure primitive picture writing, or by the association and suggestion which one thing gave to another or to other things, or by a species of conventionalization, came to represent *sounds*;—not letters but words or parts of words. Thus came into existence the other class of hieroglyph-writing—the "phonetic" hieroglyphics.

In the phonetic hieroglyphics pictures were used to express the sound of the objects which they respectively represented; and, in time, certain of the hieroglyphics both expressed and stood for other objects; and certain of the phonetics came to have syllabic value. Afterwards, in the order of development, ideas were communicated, not by pictures but by symbols for pictures, or by characters that represented and stood for definite ideas:—A star, thus, came to express the idea of God, and a succession of herons in a row the idea of "glorified souls."³ Similar is the archæological witness from ancient Mexico. Prescott says: "A Mexican manuscript looks like a collection of pictures, each one forming

³ *The Dwellers of the Nile*, pp. 42-44.

the subject of a special study. The Aztecs had various emblems for expressing such things as from their nature could not be directly represented by the painter. A 'tongue,' for example, denoted speaking; a 'footprint,' traveling; a 'man on the ground,' an earthquake. These symbols were often very arbitrary, varying with the caprice of the writer; and it required wise discrimination to interpret them, as a slight change in the form or position of the figure intimated a very different meaning. They also employed phonetic signs, though these were chiefly confined to the names of persons and places. Lastly, the pictures were colored in gaudy contrasts, so as to produce the most vivid impression, for even colors speak in the Aztec hieroglyphics."⁴

Both the ideographic and the phonetic hieroglyphics are referred to in the following from Professor Hutson: "The ideographs were first pictures pure and simple of actual objects. A large number of them became ultimately symbolic, representing any one of a large group of ideas, and needing its nearest group of phonetics to give it definiteness. The phonetics expressed the sounds of syllables, not of letters, as in the case with our alphabets. Some of these phonetics even came to be used eventually as representatives of letters."⁵ Thus in the phonetic writing the scribe finally expressed

⁴ *The Conquest of Mexico*, Vol. I; p. 98.

⁵ *The Beginnings of Civilization*, pp. 39, 40.

sounds independent of pictures or symbols and so created "words" through which ideas were recorded, perpetuated, and disseminated. There were about two thousand of the hieroglyphic signs.

At best, the picture-writing, while intelligible enough to its originators, was an incomplete and clumsy method of treasuring and transmitting knowledge. It was very liable to misinterpretation and misapplication. It was always exposed to the possibility of being misunderstood, inasmuch as every picture might have a variety of applications or significations, and thus might represent a number of different though kindred things or conceptions. "Thus in Egyptian we find two legs might represent simply the legs of a man, but they might denote 'walking,' 'going,' 'running,' 'standing,' 'support,' and even 'growth,' and their significance had to be divined without further explanation or assistance."⁶ The exposure to error involved in the decipherment of the ancient picture-writing may be illustrated by what is said to have been an actual occurrence of modern times. It is related of an illiterate though not necessarily ignorant grocer who, being unable to write, kept his accounts by picturing the various articles bought and sold at his little store. Usually there was no occasion for any one to dispute the accuracy of his "charges" though they were recorded in a species of hieroglyphics—his own invention. On one occasion, however, the grocer

⁶ *Assyrian Life and History*, pp. 39, 40.

was taken to task by a customer who "questioned" the "account" of a *cheese* which had been "charged up" against him. The customer protested that he had never bought a whole cheese, but acknowledged that he had bought what resembled a whole cheese in shape—a *grindstone*. This admission supplied a clue to the error in the grocer's "charges," for, in his picture-record he had inadvertently omitted the square hole in the center of his picture which would have transformed the "charge" of a cheese into that of a grindstone. In like manner, there was always an imminent and special exposure to error in the "record" with the ideographic hieroglyphic writing. And in addition to the inherent disabilities of the picture-writing and its exposure to a mistaken decipherment, these hieroglyphics gradually lost somewhat of their purely representative and symbolical value and thus, by being conventionalized, came into a more universal and a permanent use. Out of this fact grew the larger significance of the *demotic* writing as contrasted with the *hieratic* or priestly writing.

These ancient Egyptian writings, both the hieroglyphic and the demotic, were, alike, a sealed literature until the discovery (in 1799) of the Rosetta Stone—and its subsequent decipherment by Champollion and Young. The inscription of this most important "find" is cut into a basalt slab, three feet two inches long and two feet five inches wide. On this slab is carved a tri-lingual decree of Ptolemy

Epiphanes in *hieroglyphic* or the earliest form of picture-writing, in *demotic* or the later writing of the people as distinguished from that of the priests, and in *Greek* or the language resulting from Alexander's domination of the world—the common tongue at the beginning of the Christian Era. The former two inscriptions, though in forms of the Egyptian language long “dead” and undecipherable, were given a material resurrection through their Greek consort. The Greek language, therefore, was the key to unlock, not the inscription of the Rosetta Stone alone but also the vast treasure house of the ancient Egyptian literature. By means of the “golden guess” or the hypothesis of Dr. Young that each part of the tri-lingual inscription on the Rosetta Stone referred to or contained the same subject-matter though in different writings; through the ascertainable meaning of the Greek part of the inscription (including the proper names of Ptolemy and Cleopatra); and through the untiring patience of these early Egyptologists, the hitherto unknown meaning, not only of the Rosetta Stone but of the entire Egyptian hieroglyphs, has been opened up to the world's view.

(2) *The cuneiform writing.* Scarcely second in time or importance to the hieroglyphs of Egypt was the cuneiform or wedge-shaped writing of the primitive Accadians of Mesopotamia, and communicated by them to the after Assyrians and Babylonians. The cuneiform writing was probably derived from an

earlier hieroglyphic language among the most primitive people of Accad. This is evidenced by the pictured monuments and inscribed temple walls and gates of Assyria and Babylonia. Writing, both in Egypt and in Assyro-Babylonia, and also in the (as yet) undeciphered language of the Cretans, began with pictures. The cuneiform system of writing, it is held, must have taken centuries to have reached the stage at which it is first found. "It began, no doubt," says Mr. James Baikie, "with pure picture-writing, as the Egyptian hieroglyphic system began; but while the Egyptians maintained the pictorial element of their system to the end, developing alongside of it the hieratic and demotic systems of writing for ordinary purposes, the race in question had already, when we first meet with their writing, got away from any trace of the picture stage. Their writing is already the arrow-headed or cuneiform script which persisted right down to the fall of the great empires of the ancient East."⁷ "Not unlike other script," says Professor Albert T. Clay, "the cuneiform was originally pictorial; but, as in Egypt, the hieroglyphs became more and more simplified and conventionalized. But, unlike the Egyptians, the Babylonian or Sumerian became conventionalized at a time prior to the known history of the land; and the hieroglyphs were not continued in use even for monumental purposes, but were prac-

⁷ National Geographic Magazine, Vol. XXIX, p. 135.

tically lost sight of.”⁸ This conclusion is shared by no less a distinguished scholar than Professor Sayce. He held that “the pictures were first painted on the leaves of the papyrus which grew in the marshes of the Euphrates, but as time went on a new and more plentiful writing material came to be employed in the shape of clay.”⁹ This clay which was found under foot everywhere, when prepared, was employed by different peoples of western Asia and for a large variety of specific uses:—for literary and historical records; for mathematical tables; for correspondence; for legal documents which were often enclosed in protecting envelopes of clay; for business transactions, contracts being witnessed unto, in the absence of seals, by each party pressing his thumb-nail into the plastic clay, thus insuring the preservation of his signature for ages; in short, for all literary, historical, mathematical, commercial, and social purposes.


The cuneiform writing, whether derived from the earlier hieroglyphs or developed independently by the Accadians, was employed with all but unlimited fertility by the Assyro-Babylonian civilization. The writing was distinguished from the hieroglyphic in that it was made up, in its entirety, of a single, wedge-shaped or arrow-headed-like character, formed with a metal *stylus* having a triangular end. By pressing this stylus in the plastic clay of the prepared tablet or cylinder a sharply defined and angular shaped

⁸ National Geographic Magazine, Vol. XXIX, p. 166.

⁹ Assyria: Its Princes, Priests, and People, p. 93.

indentation was impressed and, afterward, the clay with its writing was hardened by exposure to the sun or baked by fire into an almost imperishable "record." The all but indestructible character of this material accounts for the large proportion of the Assyrian literature which has been preserved through tens of centuries.

Professor Albert T. Clay describes the preparation and use of this material as follows: "The well-kneaded clay, which had been washed to free it from grit and sand, while in a plastic condition was shaped into the form and size desired. . . . The stylus, which was made of metal or wood, was a very simple affair. In the early periods it was triangular and in the later quadrangular. . . . By pressing a corner of it into the soft clay, the impression made will be that of a wedge; hence the term cuneiform (from the Latin *cunues*) writing."¹⁰

The single simple character () from which the cuneiform writing was entirely constructed was used in multitudinous combinations and in various positions (somewhat as the Chinese ideographic characters are still used) to record the thoughts and deeds of the primitive Accadians. Great libraries, written in cuneiform, were accumulated in different centers of population; these were transmitted to the succeeding Assyrians and Babylonians. The cuneiform writing was read in the prevailing direction which the characters pointed.

¹⁰ National Geographic Magazine, Vol. XXIX, p. 166.

The "key" to the decipherment of the cuneiform writing—as that employed in the decipherment of the Egyptian hieroglyphs—was a "lucky guess" by Dr. Grotefend, a German scholar. Following the clue of a few known names on the monuments, verifying by these the conjectural values of six cuneiform combinations, he reached basal conclusions from which, finally, the Assyro-Babylonian scholars have been enabled to read these ancient cuneiform texts and inscriptions with as much assurance as the pages of the Old Testament Hebrew; and so he opened up to view a vast body of the otherwise un-read records of the past. Thus the writings of the great libraries written in this character, as at Assur, Calah, and Nineveh, though buried from sight for multiplied centuries, are now accessible through the labors of the Assyriologists.

The cuneiform literature has one preëminent distinction—its comparative incorruptibility. Manuscripts of parchment or papyrus can be easily tampered with; their contents altered or erased; additions inserted, and parts cut out bodily. They are destructible by fire and water; by time and men. Of the exposure of the papyrus literature, in particular, Mr. George H. Putnam says: "Papyrus was an extremely perishable substance. Damp, worms, moth, mice, were all deadly enemies to the papyrus rolls, but even if, through persistent watchfulness, these were guarded against, the mere handling of the rolls, even by the most careful readers, brought

them rapidly to destruction.”¹¹ This statement would apply as well though not to the same extent to the literature embodied on parchment and vellum. The writing on tablets, to the contrary, was measurably proof against the obliterations of time and use and accident. The immense number of the tablets which remain after millenniums of years is proof positive that the cuneiform literature is almost unaffected by the “hand of slowly destroying Time.” The British Museum contains the largest collection of cuneiform tablets in the world,—Sir Henry Layard, over half a century ago, contributed thereto more than twenty thousand tablets, part results of his explorations on the site of ancient Nineveh.

(3) *The alphabetic writing.* The alphabet, together with the printing-press, is to be regarded as among the most important associated inventions of all time. With due respect for tradition and oral teaching, no great permanent progress in civilization could have come about without some mode of writing. It has been said that “till one generation of men could transmit to the next the knowledge which they had acquired, and leave behind them a record of their experiments and observations, the arts and sciences must have remained forever in a very rudimentary state, and civilization, after reaching a certain early stage of development, would have remained almost stationary.” Canon Taylor affirms that “every system of non-alphabetic (*i. e.*, hiero-

¹¹ *Authors and Their Public*, p. 270.

glyphic or syllabic) writing would have been either so limited in its power of expression as to be of small practical value, or, on the other hand, so difficult and complicated, as to be unsuited to general use."

A concensus of present opinion among scholars ascribes the parentage of the alphabetic literature—at least as related to the development of civilization—to the ancient Phœnicians. The alphabetic writing may have descended from Crete to the Phœnicians, who, in turn, mediated it to all the after ages. (The Chinese literature, while it is conceded to have had a remote origin and a prolific development, cannot be regarded as an alphabetic literature. It has more of kinship with the cuneiform than either the hieroglyphic or the alphabetic writing.)

Testimony as to the source of the alphabetic writing is available: "The vast majority of alphabets are descended from the so-called Phœnician which is the earliest known, and was in existence near a thousand years B. C., although it was probably influenced by the still more ancient syllabary script of the Assyrians, Babylonians, and the Sumerians on the one hand and the Egyptian pictographs on the other."¹² "The Phœnicians were certainly using it" (the alphabet) "with freedom in the ninth century B. C. According to the view accepted till recently, the alphabet was borrowed by the Phœnicians from the cursive (hieratic) form of the ancient Egyptian

¹² Nelson's Encyclopedia.

hieroglyphs. . . . The more recent view is that of Dr. A. J. Evans who argues ingeniously that the alphabet was taken over from Crete by the 'Cherethites' and 'Pelethites' or Philistines, who established for themselves settlements on the coasts of Palestine. From them it passed to the Phœnicians, who were their near neighbors, if not their kinsfolk."¹⁸ Of the alphabetic writing Professor Sayce says: "The history of our alphabet is a record of slow stages of growth, through which the idea of *sound-writing* has been evolved. The first effort to record an event, so as to make it widely known, would naturally be to draw a picture of it. A written word, let us remember, is the picture of a sound." And in the same connection, he says that the ancient Phœnicians (because they were the great traders and settlers of the early world) were most in need of a clear, precise, and *communicable* method of writing. The alphabetic writing was such a method.

The desire and necessity for a medium of *thought-exchange* that might serve as the means of communicating ideas to persons at a distance, and by means of which information and desires might be exchanged independent of personal contact, probably led to the invention or expedited the development of the alphabetic writing, which differed from both the hieroglyphic and the cuneiform writings. This seems to have been the genesis of the alphabet; and the Phœnicians are commonly regarded as the first

¹⁸ Encyclopedia Britannica (Eleventh Edition).

to have employed it for this purpose. At any rate an alphabetic form of writing by means of what has been designated an "ideographic alphabet," an alphabet expressing ideas by means of letters (whether original or an inheritance) was in use by the Phœnicians as early as about 1,000 B. C. In the estimate of scholars, all our alphabets (varying in the number of letters, respectively, from twenty-two in the Hebrew to forty-nine in the Sanscrit) have come down to our times, however circuitous may have been the route, by way of the old Phœnicians.

[Explorations recently made in Crete, in which Dr. A. J. Evans has borne a conspicuous part, have revealed a high state of civilization existing there, long anterior to that of Egypt or Assyria, and disclosed "The existence of a highly advanced civilization, going back far behind the historic period." Among other interesting "finds," more than a thousand clay tablets were unearthed in the ancient palace of Cnossos. The great conflagration which long, long ago destroyed the palace served, by baking these tablets, to make them more permanent. These tablets vary in size and shape and the character of their writing, being inscribed "both in pictographic and linear forms" of the Minoan script." As based on the results of these explorations, a claim is made for the ante-Phœnician origin of the alphabetic writing there discovered. In accordance with this hypothesis it is held that the Phœnicians only appropriated and developed what had come to them

from Crete—what had existed in Crete for centuries previously. But it was no less an important service which the Phœnicians contributed though it be hereafter shown conclusively that they merely appropriated what had descended to them from the earlier Cretan civilization.

These Cretan tablets are, as yet, undecipherable. They are written in an unknown tongue and await the discovery of some bi-lingual text or inscription which shall prove, as in the case of the Rosetta Stone, the line of cleavage to the interpretation of what is, possibly, the earliest of all written languages. The characters of these tablets are varied, consisting of linear writing and of hieroglyphics. Dr. Evans thus sums up the present evidence of the earlier Minoan or pre-Cretan origin of this alphabetic writing: "When we examine in detail the linear script of these Mycenæan documents, it is impossible not to recognize that we have here a system of writing, syllabic and perhaps purely alphabetic, which stands on a distinctly higher level of development than the hieroglyphs of Egypt or the cuneiform script of contemporary Syria and Babylon."¹⁴]

The earliest alphabetic document, in a language that is decipherable, and the date of which is approximately determinable, is the famous Moabite Stone. This relic of the remote past was discovered

¹⁴ *Encyclopedia Britannica* (Eleventh Edition) "Crete." *National Geographic Magazine*, January, 1912.

in 1868 among the ruins of Dibon by Dr. Klein, a missionary of the Church of England while touring in the region once known as the land of Moab, and whence its designation. The Moabite Stone is a slab of black basalt, nearly four feet high and two feet wide, rounded at the top, and contains an inscription of thirty-four lines cut in Phœnician characters. It is ascribed to the first half of the ninth century B. C. The Stone was intact when discovered though it suffered an attempted destruction by Arabs before it could be removed to a place of safety. The preserved fragments contain six hundred and sixty-nine characters, and many additional characters have been restored from the surviving portions. The inscription on the Stone contains the account of Mesha's breaking away from the rule of Israel and gives striking corroboration of the scripture record (II Kings 3: 4-27) and recounts that the king Mesha, after Ahab's death, "rebelled against the king of Israel." "The whole inscription," says Professor Sayce, "reads like a chapter from one of the historical books of the Old Testament. Not only are the phrases the same, but the words and the grammatical forms are, with one or two exceptions, all found in scriptural Hebrew." He adds, further, "The Moabite Stone shows us what were the forms of the Phœnician letters used on the eastern side of the Jordan in the time of Ahab. The forms employed in Israel and Judah on the western side could not have differed much; and we may there-

fore see in these venerable characters the precise mode of writing employed by the earlier prophets of the Old Testament."¹⁵

But the surpassing interest which the Moabite Stone possesses for the antiquarian is not its corroboration of remote Israelitish history or the substantial identity of its letters with the Hebrew forms, but, rather, its contribution to all alphabetic literature of all the past. This will appear in a quotation from the late Wm. Frost Bishop, D.D.: "The essential features in the outline of each of our own letters may be detected easily in the characters of the Moabite Stone, written 2,900 years ago. . . . The primitive Semitic inscription of this stone contains the alphabet from which all existing alphabets have been derived. It exhibits the embryo forms of all the letters—2,000 or 3,000 in number—in every one of the alphabets which are now in use throughout the world. It might thus be termed the great mother alphabet of the world."¹⁶ The Moabite Stone in itself would seem to indicate a more or less general as well as an understanding use of the alphabet in which it is inscribed throughout that region at an early date—perhaps at a much earlier date than that of the inscription—as the Code of Hammurabi, set up at Susa in Persia, indicates a more or less general acquaintance with the cuneiform characters in which the laws of that an-

¹⁵ *Fresh Light from the Ancient Monuments*, pp. 79, 82.

¹⁶ Article on "The World's One Alphabet."

cient monarch were promulgated. Supporting this conclusion, Mr. E. C. Richardson holds that there is "growing evidence of the prevailing use of handwriting all over Palestine, by not later than the ninth century."¹⁷ Professor Sayce, referring to the criticism that would deny the pre-exilic origin of the larger part of the Old Testament literature on the ground that the early Israelites could not read or write, says: "This supposed late use of writing for literary purposes was merely an assumption, with nothing more solid to rest upon than the critic's own theories and prepossessions. And as soon as it could be tested by solid fact it crumbled into dust."¹⁸

Closely identified with the Moabite Stone, both in the time of its supposed production and in its alphabetic characteristics, is the Siloam Inscription at Jerusalem, laid bare to the world's gaze in 1881. The discovery of this valuable treasure of Palestinian records was due to fortuitous circumstances, as has been many another important "find." [A boy wading in the channel cut in the rock leading to the Pool first discovered the writing, partly concealed by water, on the southern wall of the channel.¹⁹] The Siloam Inscription, though brief—containing only six lines, with the writing partly destroyed—has great philological and historical value. According to the judgment of scholars this inscription was

¹⁷ International Standard Bible Ency., art. "Books."

¹⁸ Monument Facts, Etc., pp. 28, 29.

¹⁹ Fresh Light from the Ancient Monuments, pp. 83, 84.

executed in the reign of King Hezekiah and may have been designed to celebrate and memorialize his distinguished achievement, recorded in scripture (II Chronicles 32:30). Its complete translation has been accomplished. The letters of this writing are held by some archæologists and philologists to exhibit, possibly, even older forms than those contained in the inscription of the Moabite Stone. The inscriptions are closely related. Of the Moabite Stone a Jewish writer holds that "the language, with slight deviation, is Hebrew, and reads almost like a chapter from the Book of Kings"; and, of the Siloam Inscription, that "it is pure Hebrew."²⁰

(4) *Classic writing.* Each country and people has had a palæography, in some respects, of its own, and developed by its own individual history, although modified, often, by the adjacent countries and contemporaneous peoples. The palæography of a civilization is sometimes taken up by other civilizations and, in turn, may be transmitted as an inheritance to other generations. Almost every century has had its own specific "hand," and the "hand" throughout human history has constantly undergone change. Sometimes the change has been for the better; at other times the change has been for the worse; the change in handwriting going on at the present time can hardly be accredited for the worse, and for the reason that, speaking inclusively, it now seems to have attained unto the superlatively bad.

²⁰ The Jewish Encyclopedia.

“Handwriting, like every other art, has its different phases of growth, perfection, and decay. A particular form of writing is gradually developed, then takes the finished or caligraphic style and becomes the ‘hand’ of the period; then deteriorates, breaks up, and disappears, or drags out only an artificial existence—being superceded, meanwhile, by another ‘hand’ which, either developed from an older hand or introduced independently, runs the same course and, in its turn, is displaced by a younger rival.”²¹ The “Spencerian” and the “vertical” hands are well-known and present-day applications of this law of change or development in the form of written language.

(5) *The two great stages of classic writing.* Another fact concerning palæography merits more than a passing notice—it is the two great stages of the classical writing. The Greek handwriting, in which much of the best classic literature was written (in which the New Testament, with the possible exception of Matthew’s gospel, and the Old Testament of the Septuagint Version were written; and in which, furthermore, a large proportion of the writings by the early Christian teachers and apologists and also those of the heathen and heretical controversialists of the early centuries were written), passed through two clearly defined and distinctly separated stages, known, respectively, as the *uncial* and the *minuscule* “hands.” The “uncial” was the large letter hand,

²¹ Encyclopedia Britannica (Eleventh Edition).

and the dominant style from the time of the earliest written productions in Greek down to the ninth century. The "minuscule" (called also the "cursive") was the small letter or the "running" hand and continued in use, comprehensively, from the ninth century A. D. (though known earlier), when it largely displaced the "uncial" style, on, until the invention of printing superceded handwriting as the treasuring and disseminating medium of literary productions.

The difference in size and style of the letters was not the only nor, perhaps, the chief demarcation between these "hands"; there was a broad distinction also in the relation of the letters to one another. In the uncial hand each letter was separated from the other letters as in printing; but in the minuscule style the letters of words were joined together in a "running" hand as in modern writing, thus facilitating rapidity in the use of the pen. Capitalization was little regarded in the early centuries; and punctuation as a system was not known. These two distinctions of the uncial and the minuscule hands were applied also to the productions written in Latin, though the uncial characters gave place to the small letter or "current" hand at an earlier date among the Roman than among the Greek copyists. This was probably owing to the decadence of the Greek language and the consequent ascendancy of the Latin.

The most important systems of writing, for many

centuries—from a time long previous to the Christian Era and on throughout the Middle Ages—were those which employed the classic Greek and Latin alphabets, and in which the great body of the world's best literature was written. At least this was true within the bounds of Europe. With the declining literary importance of Alexandria came the growing prominence of the region north of the Mediterranean. The Greek alphabet and language held preëminence for centuries, beginning with Alexander's conquest and extending into the early Christian centuries when they were displaced, early in the Middle Ages, under the Latin ascendancy. During the increasing domination of the Latin alphabet and literature, national and provincial "hands" were developed and came into active competition in the centuries previous to the invention of printing. The handwriting which was of specifically Roman lineage was gradually modified by enviroing conditions in the different sections of Europe and resulted in various "hands," as the "Lombardic" hand of Italy, the "Visigothic" hand of Spain, and the "Merovingian" and (later) the "Carolingian" hand of the Frankish Empire.

(6) *The Anglo-Saxon writing.* The Anglo-Saxon handwriting is an inheritance from the Latin national hand. In this "descent" (or, is it "ascent"?) of our modern English "hand," in the long process of its genealogy, the Latin displaced the earlier Greek, as the Greek had won its way over the

still earlier Phœnician and Hebrew. In our modern English literature we employ the Roman alphabet (as other nationalities are coming more and more to do). The Roman characters, being descended immediately from the Latin, though modified more or less by the Norman domination and other factors, constitute what may be called the cosmopolitan alphabet of modern times. The characters used in our Anglo-Saxon writing have come to their present ascendancy and increasing supremacy from two reasons in particular: First, because the Latin on which it was based was the language of the educated classes of all nations during the Middle Ages; and second—and probably chiefly—because the Roman characters are better adapted for rapid writing than were the severe though elegant letters of the Greek language. The shape of the Roman characters greatly facilitated the adoption of the “running” hand in the Latin literature.

Many changes other than those already alluded to have come about in the transmission of literature from age to age: Men at first wrote from right to left as the orientals still do. The peoples of early Greece first wrote, as the Chinese still do, perpendicularly to the page, and then from right to left; later, backward and forward from right to left and left to right as in case of furrows made by a side-hill plow; and lastly, from left to right as moderns do. We look for the beginning of the Hebrew Bible where our English Bible ends; and we read it

from right to left and turn its pages from left to right. It is much the same with the Chinese books, except that the columns of reading matter extend downwards on the page from top to bottom and not crosswise to the page as in other languages.

(7) *Palæography and the date of literary productions.* The style and character of the handwriting is of great practical importance to literary criticism and has large historical value. A knowledge as to the history of the individual letters (and each individual letter of the alphabet has a history of its own, as to its genesis and development) and of the arrangement and the appearance of literary productions is of the utmost significance in ascertaining the age, meaning, and value of ancient documents. The style of handwriting, also, has a large place in determining the time or period when a manuscript was written, even when the date is not affixed, just as the spelling of words in our English tongue and the fashion of our typography—ever fluctuating at the demand of artistic taste or attractive appearance—helps to determine, in absence of the date of publication, the approximate time when a book was printed. Illustrative of this, the author once placed on his library shelves an attractive set of books which were represented at the time of purchase as “just from the press” but which he knew at the time were printed from plates made more than a dozen years before although they may have been “fresh from the press”;—he knew it from the kind of type

employed in their printing, or, more accurately speaking, he knew it from the peculiar quotation-marks used with that particular type, inasmuch as the style of quotation-marks used in those volumes had passed out of current use by printers and publishers some years previously, having had but a feeble tenure of existence. To realize at a glance the ever-changing style of type in modern printing, one needs but to turn the pages of type-manufacturing catalogues. In like manner, the style of handwriting in any language constitutes a kind of verisimilitude for the age of the written literature. Dr. Isaac Taylor has said, "The architecture of different periods is not more characteristic of the age to which it belongs, than is the style of writing in manuscripts, nor is there less of certainty in determining questions of antiquity in the one case than in the other."²² As the periods of the "Doric," "Ionic," and "Corinthian" architectures are determinable approximately by their respective characteristics—so the time of a literary production is largely determined by the characteristics of the handwriting in which it is written. We quote the words of Professor Mahaffy: "The task of palæography is now changed. We have ample evidence of antiquity; we rather seek to distinguish the small peculiarities of ancient handwriting as to tell their age approximately when the writer has affixed no note of his own time. And this we do with wonderful

²² *History of the Transmission of Ancient Books.*

certainty, because almost every century has its own hand so distinctly that even the man who attempts to copy older fashions can easily be detected by his want of freedom. Years ago I was shown, in the great library at Naples, a manuscript of this kind, apparently of the tenth century. After a few minutes' examination, though I had never before seen such a thing, I told the librarian that it seemed to me a careful copy of an old hand by a laborious scribe of later date. He was surprised, but then showed me, what he had intended to conceal, a note at the end dated 1450, showing that my guess was correct. This anecdote is quoted to show that the freedom of the hand, as well as the shape of the letters, must be carefully estimated and considered by the palæographer. By using a good microscope, unsteadiness of lines which escape the naked eye will become apparent; and this is now well known to those who have studied the detection of forgeries in criminal cases." ²⁸

²⁸ Recent Research in Bible Lands, pp. 194, 195.

XV

MECHANICAL AND ARTIFICIAL DEVICES OF LITERATURE

THE universal divisions of modern literary productions into books, chapters, sections, paragraphs, sentences, and members of sentences, together with capitalization and the system of punctuation, are so important and so enthralled with modern composition and rhetoric that we could hardly appreciate or understand literature apart from them. Apropos to this observation, Professor Dobschütz says: "If we look at the earliest manuscripts of the Bible which have come down to us, we shall almost think that supernatural assistance was necessary for reading them; no punctuation, no accent, no space between the words, no breaking off at the end of a sentence. The reader has to know his text almost entirely by heart to do it well."¹

These distinctions of literature are mechanical and artificial devices for clarifying and making emphatic a writer's thoughts as expressed in written or printed language and they are comparatively modern devices. Punctuation marks are indispensable in legal documents and in all the commercial opera-

¹The Influence of the Bible on Civilisation, p. 13.

tions of the times. The altered position of a comma gives a changed meaning to scripture texts and to legal documents. (As an illustration of the changed position of a comma, note the varying punctuation of Hebrews 10:12 as contained in different editions of our Authorized Version. In all pulpit Bibles which we have examined, the comma is placed after the word "sins," while in the various teachers' Bibles the comma follows the word "forever." By the former punctuation an important New Testament doctrine is negatived.)

Imagine yourself trying to read a philosophical treatise, a technical or abstruse discussion, a scholarly or scientific essay, a thrilling romance, or a legal document, in which there were no distinctions of paragraphs, sentences, phrases, or even individual words—no capitalization and no punctuation-marks of any kind to assist in determining a writer's thoughts or the exact meaning of his composition—and you must recognize the obstacles which confront the researchers of ancient literary documents. The difficulties encountered in the literature of the Bible are in no wise diminished when we recall the fact that the originals of our sacred writings, both Hebrew and Greek, were written, for the most part, in solid blocks of letters analogous to our capitals, without any of the distinguishing limits or relief which come from chapters, verses, pause-marks, or words. It was only by degrees and at slow stages that individual words were separated from one an-

other by a spacing between them; then, later, came the grouping of words into sentences by means of pause-marks and other mechanical devices of literature.

The division of the books of the Bible into chapters and verses is of comparatively modern origin. The chapters of the Bible are associated with the name of Cardinal Hugo who, at about the middle of the thirteenth century, divided the Latin Bible into chapters in order to facilitate reference, for comparison of scripture with scripture, and to make available a commentary which he had prepared. The system of verses, so useful for reference in Bible study, is associated with the work of Robert Stephens, a printer of Geneva who divided the chapters of Cardinal Hugo's Latin Bible into verses and affixed a numerical notation to them. This numbering of the verses first appeared in a Greek New Testament which Stephens printed at Geneva in 1531. The same volume contained also the Vulgate and a Latin version by Erasmus.

The importance of punctuation-marks as an artificial aid for conveying a writer's thoughts and in giving emphasis to written or printed language can scarcely be appreciated by the present generation, for it has always been accustomed to their use. In the Greek manuscripts there was, at the first, nothing corresponding to "stops" or pause-marks as in modern literature. In the modern Hebrew literature there are vowels or vowel "pointings" to

facilitate reading; but these were not expressed in the ancient Hebrew writing, inasmuch as the Hebrew written language was made up exclusively of consonant letters (commonly three letters to a word) without vowels or vowel "pointings." The idiomatic use of the respective languages occasioned a further difficulty: In English composition, *e. g.*, the logical order is subject, predicate, object with their modifiers in order; and emphasis is indicated by *italic* and CAPITAL letters, and by pause-marks without varying the order of composition; but with the Greek and Latin literatures emphasis was denoted by the position of words in the sentence, by the relation of a word to other words, or in the use of words with reference to their modifiers.

The development of a system of "pointings" in order to bring out more clearly the meaning of a writer and so facilitate the reading of manuscript literature, began at Alexandria, being first employed in poetical writing. A slight open space at the left of a line, analogous to modern indentation in the margin at the beginning of a paragraph, made its appearance first on the papyri at Alexandria. In the manuscripts of the New Testament the earliest attempts in the direction of punctuation go back to the fourth century A. D., and consisted of an occasional simple point or a small blank space in the writing, which, to that extent, broke up somewhat the otherwise monotonous lines of letters. *Stichometry*, introduced in the fifth century by a scholar named

Euthalius, was an arrangement of the Gospels, the Acts, and the epistles of Paul in lines—regulated according to the sense—each line terminating where some pause should be made in the reading; and so had the force of a system of punctuation, but, owing to the waste of costly parchment, it was not generally or extensively adopted.

Concerning the history of punctuation marks it is claimed that Jerome, the celebrated scholar of the fourth and fifth centuries (died 420 A. D.) used points similar to our “comma” and “colon.” These points, while not in universal use by the writers, were inserted in many old manuscripts. In the ninth century, the stroke called the “comma” came into more common use, and a dot above the line indicated a pause equivalent to the “colon” or the “semicolon,” while a full stop was denoted by a large dot or “period” or a double dot, and by a space. The interrogation point, identical in form with our semicolon, occasionally appears. The “breathings” and “accents” with which the Greek literature has come down to us, while traces of them appear in the early centuries, were not common at the end of the seventh century A. D.,—those found in the Vatican manuscript of the fourth century and in the Alexandrian manuscript of the fifth were supplied by a later hand than the writers of these copies. The Latins, in the wake of the Greeks, adopted their system of punctuation, meager as it was, and continued its use in the transcription of the Latin literature through-

out the Middle Ages.

The system of punctuation employed in all modern literature, and which is so essential a part of the finished rhetoric, is of recent development as compared with the course of literature, and dates from the time of a Venetian printer, Aldus Manutius, late in the fifteenth century. It was largely consequent upon the invention of printing, though some of the punctuation-marks of the modern system were used before the division of the sacred literature into chapters and verses. It is to be noted that the present tendency by the best writers is to simplify punctuation as much as possible.

The system of notation—as with many of the good things of life and much of our wisdom—like the wise men in the days of Herod, came from the East,—from India by way of Arabia. The origin of the completed system of notation as now in universal use, at once simple and complete, is comparatively recent and obscure. Its origin and development had both a practical and a philosophical side. Its beginnings antedate the earliest art, literature, and science. It began in *counting* and in some sort of tally of separate units,—perhaps upon the fingers. Probably the ten digits of the two hands suggested the widely-extended and ever-available scale of ten for comparison and estimate. Other scales than ten for counting and calculation have been employed by tribes and nations :—scales of twos, and threes, and fives, and sevens, and twelves, and twen-

ties. The ancient Hebrews employed two or more of these scales.

The Hebrews and Greeks as well as the Romans used letters of the alphabet instead of figures for counting and calculations. The system of notation as we now have it was of gradual development. Under Theoderic the Great (454-526 A. D.), Boethius made use of certain marks or signs which were in part similar to our nine digits. This was improved upon by a pupil of Gerbeet, who used signs still more like our nine digits. But all methods of notation preceding the Arabic were unwieldy, complex, and incomplete. The system did not originate with the Arabs. As the Arabs had appropriated the Chinese discovery and use of paper, so they appropriated the Hindu system of notation. The system at first was without a *zero*: that character was added probably in the seventh century. The decimal character was used to give positional or place value to the nine digits,—the cipher having no value except in combination with the digits; it thus completed the system of notation.

XVI

SOURCES OF THE BOOK-MAKING INDUSTRY

THE making of books and the depositories of them prior to the invention of printing, and especially during the Middle Ages or from the fifth century to the fifteenth, inclusive, are matters of all but romantic interest. In the very early times and in all the principal cities of Greece and her colonies there were professional scribes who engaged in the business of copying and caring for books, the same as we now have our professional "book-keepers" (though with a different application) and our printers and librarians. This was peculiarly the condition in the later Grecian and the earlier Roman times. The accredited—though almost incredible—number of volumes in some of the ancient libraries, as at that of Alexandria—notwithstanding the slow and laborious process of their making, when every book made was a separate production—is proof positive of the extent of this industry. It was equally true of the very early times—of the times of ancient Assyria. That scribes, giving their whole attention to the production of their books, were very numerous in the period of the cuneiform writings is inferred from the immense quantity of their writings con-

tained in the great libraries, and from the fact that in some periods almost every document is found to have been written by a different scribe. Women are known to have been employed as scribes.¹

The treasures of learning and letters, preserved from the pre-Christian times, as at Samos, Athens, Megara, and Pergamos, quickly found their way (in the early centuries of our Era) from Greece, the fountain source of books and culture, into all those parts of the world with which she was brought into commercial relations and whither the conquests of Alexander had already carried the Greek culture and literature. And so it came to pass that to the cities of the Mediterranean and the Euxine there was a constant flow of books; and, in many of them, extensive libraries were collected and treasured. At a later time, when the making of books had greatly declined in consequence of the enveloping cloud of ignorance, the monks, dignitaries of the Church and even princes, brought a steadfast devotion to the copying of the religious books—especially the Bible—though not neglecting the classic literature. Noble Christian ladies, too, shared in this copying of the Bible as a form of ascetic work providing, as they believed, heavenly merit and the means of subsistence. A Christian sometimes copied for himself a gospel or some letters of evangelists, or even one or more books of the Old Testament; and we are told that wealthy Christians sometimes helped their

¹ National Geographic Magazine, Vol. XXIX, p. 167.

poorer brethren by providing them with copies.

The production of books was mostly but not wholly confined to the early centuries of the Christian Era; it certainly did not extend to any considerable degree beyond the fifth century. It is within the historical facts to say that, from the fifth century on, inclusively, throughout the "Dark Ages" or for nearly a thousand years, the business of making books greatly declined, and was limited largely to books which persons of rank, literary taste, or religious devotion, themselves copied for personal use or gratification, and to books copied in the religious houses. Persons of wealth or position, too, would sometimes employ copyists or men of sedentary habits or scholarly tastes, and even their slaves who were fitted for this occupation, to transcribe such books as could be secured for the purpose. (A slave of this period was often not the dull and degraded bondman which we are accustomed to associate with the designation "slave" but he might be a man in all ways superior to his master.) Among the copyists of the times were educated persons who, by reason of the misfortunes of war, the handicaps of fate, or the hard contingencies of life—such as the loss of possessions or the reverses of fortune—had fallen into a subject condition of servitude and were employed by their masters as secretaries, scribes, and even as personal advisers and trusted friends. Origin, perhaps the greatest Bible scholar of the ancient Church, is said to have been supported by a rich

admirer who put a number of slave copyists at his disposal. These copyists were sometimes employed to further the commercial enterprises of their owners also; for books generally had a marketable value—often a high commercial value—notwithstanding the dearth of intelligence and decline of learning. There were times when the possession of a book, especially the Bible, was regarded as a treasure-trove, and the owning of a book by whomsoever written was considered a fact worthy of record by a biographer.

So also, toward the close of the Middle Ages when smaller libraries had been established in abbeys and schools, as in France and Spain, manuscript books were borrowed from neighboring libraries and copies were made therefrom to increase many local collections. It was a custom, furthermore, in wide areas for libraries to exchange duplicate copies of books and thus the extension of literature went on even in the "Dark Ages," though with a fluctuating progress. More than this, since much of the literature of the times was written upon the fragile papyrus, a constant renewal of books was made necessary in order to replenish, maintain, and enlarge existing libraries and private collections. This, in the later days, furnished occupation for impecunious students of the universities as well as for slaves, professional scribes, and occupants of the religious houses.

But in the intellectual torpor that abounded, and

in the pall of almost universal ignorance that overcast the civilized world—under which there were princes and kings who could not even read—it is unreasonable to suppose, notwithstanding the feeble intellectual flickerings that lingered, that there was any very considerable demand for literature during a long period of time, or for a large portion of the “Dark Ages.” It was the fact, as says Hallam, the historian of this period, that “a cloud of ignorance overspread the whole face of the Church, hardly broken by a few glimmering lights, who owe much of their distinction to the surrounding darkness.” And he portrays at length the gross darkness that enveloped the people, both clergy and laity.² In an age when scarcely anybody could write or even read, when learning had well-nigh disappeared under the pall of ignorance, we may easily believe that books were neither extensively made nor highly valued. To again quote from Hallam: “If it be demanded by what cause it happened that a few sparks of ancient learning survived throughout this long winter, we can only ascribe their preservation to the establishment of Christianity. Religion alone made a bridge, as it were, across this chaos and has linked the two periods of ancient and modern civilization.” Similar is the testimony of Mr. George H. Putnam: “In the centuries which elapsed between the downfall of the Roman Empire and the invention of printing, the centers of intellectual ac-

² *Middle Ages*, Vol. II, pp. 459, 463.

tivities and of scholarly interests were undoubtedly the churches and the monasteries, and it is probable that if it had not been for the educational work done by the priests and monks, and for the interest taken by them (however inadequately and ignorantly) in the literature of the past, the fragments of this literature which have been preserved for to-day would have been much less considerable and more fragmentary than they are. As I understand history, the literary interests of the world owe very much to the fostering care given to them by the Church, or by certain portions of the Church, during the troublous centuries of the early Middle Ages. Throughout these centuries the Church not only supplied a standard of morality, but kept in existence whatever intellectual life there was." ⁸

⁸ *Authors and Their Public*, pp. 273, 274.

XVII

THE LITERARY PREËMINENCE OF ALEXANDRIA

THE fact that, for hundreds of years, Alexandria held the preëminence as the center and source of literary achievement—down to the culmination of her distinguishing history in 642 A. D.—will not blind our eyes to the recognition of the earlier and narrower centers and sources of intellectual activity. The fact must not be overlooked that, long before the imperial City was founded at the northern extremity of Egypt in 332 B. C., there were other important centers of learning and well-known depositories of written records.

Perhaps the very earliest extensive depository of written documents of any character which have survived for millenniums of years was at ancient *Nippur*, in the region of Babylon and between the Euphrates and the Tigris. This Nippur, or the modern *Nuffar*, is spoken of in the old Sumerian legends as the oldest city of the earth, and the influence of which has been felt by all classes of Babylonian peoples for fully four thousand years. Through explorations, patiently and hazardously prosecuted—at Nippur and elsewhere in Babylonia—a long-forgotten world has slowly risen from its

sealed entombment for multiplied centuries into resurrection life and reality. The Babylonian Expedition, organized and equipped for the purpose by the University of Pennsylvania, has carried on a succession of expeditions, with some interruptions; from 1889, forward, on the site of this ancient forgotten city. As part results of its excavations, there have been unearthed, not only temple walls with their contents of sarcophagi, bas-relief, vases, playthings, weapons, objects and ornaments in gold, silver, bronze, iron, clay, and stone, together with human bones, but also more than 32,000 cuneiform tablets. These tablets, the first-fruits of the vast literary deposits of this ancient city, are of a manifold character and consist of syllabaries, letters, chronological lists, historical fragments, religious texts, and the like. The tablets already examined indicate the probable value of many of these records from that far-off age. The oldest of them, according to Professor Hilprecht, have an antiquity of about 2800 years B. C.,—one particular fragment, containing a part of the deluge story more ancient by a thousand years than any yet found, antedates Abraham's leaving Ur of the Chaldees full two hundred years. The story as inscribed thereon, being deciphered by Professor Hilprecht, not only tallies with the Bible record but adds minute details and clarifies in some particulars the inspired narrative contained in Genesis.¹ The newspapers of the time

¹ Recent Research in Bible Lands, pp. 45-63.

of this "find" contain this account of the difficulty in the way of the tablet's decipherment: "Because of its long period in the earth the tablet was incrustated with crystals of nitre, which filled up the characters of the ancient text. Besides, the clay was in a state of decomposition and exceedingly difficult to handle without destroying the tablet and losing the precious writing on it. For weeks Professor Hilprecht worked several hours a day to remove the crystals and to put the tablet into a state in which it could be deciphered. Then he set about the work of translating the writing."

The chief library of ancient Assyria—and the one of which we have the most definite knowledge—was that of *Assur-bani-pal* at Nineveh. This distinguished king of Assyria, successor of Sargon, Senacherib, and Esar-haddon, and the conqueror of Babylon, greatly enlarged the library of which his predecessors had made beginnings, bringing into it the plundered books of Babylonia and otherwise greatly developing its resources. The date of this library at Nineveh is fixed at about 670 B. C., and is accredited to have contained in its archives more than thirty thousand tablets and a large collection of hexagonal and octagonal cylinders, seals, and other valuable archæological treasures, including clay sarcophagi. *Assur-bani-pal* sent his scribes to copy the vocabularies of foreigners wherever accessible and added thus to the treasures of his library by the extensive transcription of tablets and cylinders. Pro-

fessor Sayce tells us that "a whole army of scribes were employed in it, busily engaged in writing and editing old texts." In the library, too, the study of the Accadian tongue was revived and the language and literature of the primitive progenitors of the Assyrio-Babylonians was written, not only with Babylonian translations but also with their Assyrian equivalents. Sir Henry Layard, as long ago as in 1850, in the course of his explorations unearthed on the site of this old library more than twenty thousand clay tablets, which were brought, later, to the British Museum. It was estimated that as many more tablets remained as had been carried away. These tablets vary in dimensions, the largest measuring from nine inches by six and a half while the smallest in some cases are not more than an inch long and with but one or two lines of writing on them. These tablets are covered over with cuneiform characters. These characters are so small on some of the cylinders and tablets that, according to Professor George Rawlinson, five or six lines have been traced within the space of an inch. The delicate character of the writing on some of the tablets has led some of the archæologists to conclude that the inscriptions thereon must have been written with the aid of a magnifying glass;—indeed, a magnifying lens of crystal, now exhibited in the British Museum, was found on the site of this library at Nineveh. These tablets, like those at Nippur, cover a wide range of subjects: historical, mythological, linguistic, mathe-

matical, geographical, and astronomical.

The next in point of time among the great libraries of the ancient world was that at Pergamos in Asia Minor. Eumenes II. (197-159 B. C.) and other kings of Pergamos established a library in this city of ancient Mysia in which was stored a vast collection of manuscript books, approximating 200,000 rolls, written on papyrus and parchment. This library at Pergamos flourished for a period of one hundred and fifty years, or from its establishment on until it was given to Cleopatra by Antony, and transferred by his authority to Alexandria in order to replace one of the libraries which was said to have been destroyed by fire in the wars of Cæsar; and so, thenceforward, became incorporated in the Alexandrian Library and shared its fateful history.

The city of Alexandria, located on the delta of the Nile, became—and remained for centuries both prior to and after the Christian Era had begun—preëminent among the cities of the age we are considering, as a literary center and source of intellectual virility. Grecian literature and learning flourished there under the patronage of the Ptolemies; and there, under Ptolemy I. (Ptolemy "Soter") at about 300 B. C., was begun the Alexandrian Library and Museum, the largest, most valuable, and the most renowned of all ancient libraries. While the Alexandrian Library was begun under the rule of Ptolemy "Soter," a general of Alexander the Great, it was during the reign of his

son and successor, Ptolemy Philadelphus, that the Library took on organized proportions and greatly augmented resources. Ptolemy Philadelphus sent to all parts of Egypt, Greece, and Asia to secure the most valuable books; no exertions nor expense were spared to enrich and enlarge the collection in the Library; and he left, it is said, 100,000 volumes therein. Staffs of copyists were gathered in the Museum and search was continually made throughout Greece and Asia Minor for copies and duplicates of existing rolls. Extravagant prices were paid for books by the librarians (page 30) and thus a steady flow of literature was turned toward Alexandria from all parts of the then civilized world. The Library further grew, during the Ptolemaic Dynasty, and, as augmented by the collection of books from Pergamos, to the vast proportions of 700,000 books (all, of course, in manuscript) in this proud Capital on the Nile.

We must ever bear it in mind, however, while considering the large number of books treasured in the Alexandrian Library, or in any other ancient collection, that a manuscript roll—the common form of most ancient books—was generally written on one side of the parchment or papyrus only and therefore could contain at most only one-half the amount of matter embraced within a book of leaves and pages.

We have already called attention (p. 62) to the change in literature from the roll book to the book

of leaves; and would now note the further change in the roll-book by which the smaller rolls, convenient for handling, were substituted for the enormous and cumbrous ones often encountered. The bulkier manuscript rolls, composed as they were of parchment or papyrus,—chiefly of papyrus at Alexandria—sometimes having the length of one hundred and twenty feet or even longer, came to be divided into smaller rolls as making up a given large work,—the number of which being determined by the size of the respective works, or, somewhat, as in poetry, by the character of the composition. The object of this was to facilitate handling and reference, and, incidentally, the preservation of the manuscript;—the opening portions of the roll, as also the initial pages of a book of leaves, being most frequently handled, were subjected to greatest “wear and tear.” Under this change, the History of Herodotus, e. g., was multiplied into nine and the Iliad of Homer into twenty-four “books” or volumes; and the entire Bible which, if contained in one roll would prove unwieldly and almost incapable of use, would require thirty or forty or more rolls. The size of the Medieval Bibles, when made up in a book with leaves instead of the roll form, was immense. They were veritable libraries in themselves—consisting of four or five, in one instance of fourteen, great folio volumes. The Bible, however, being written by many different authors and having a great diversity of themes, would, by reason of this

difference in authorship and subject-matter, more readily lend itself to an arrangement into separate rolls or books than many of the early classic writings. Indeed, the Bible, while it is THE BOOK, is, essentially, a large collection of separate books. Not the Bible alone but other large works, as the Iliad and the Odyssey, notwithstanding the unity and continuity of their themes, were also divided into "books" or rolls, and these were numbered or named by the letters of the Greek alphabet:—"Iliad A" would designate the first book of Homer's Iliad, and so on unto the end of the composition. This change to smaller books, and thus to a larger number of separate volumes, came about or was facilitated and expedited in the Library at Alexandria. One, Callimachus, the grammarian, seems to have been greatly instrumental in its furtherance; for, as says Mr. Putnam, "From his time the cumbrous scrolls began to disappear, and as well for the editions of the classics as for the literature of the day, the small rolls came into use."²

The method of collecting books (as well as the multiplication of smaller rolls from a single larger roll by transcription) tended also to the enlargement of the Alexandrian Library. We are informed by tradition that, in addition to the *purchase* of rolls, the books taken by the authorities from Greeks and other foreigners coming into Egypt were sent to the Library and there copied by the scribes in its em-

² *Authors and Their Public*, p. 142.

ploy. The copies thus made were delivered to the owners of the books, while the originals from which the copies were made were deposited in the Library. If this tradition is to be credited, then, how absolutely beyond estimate was the importance of the Alexandrian Library as the chief and the almost exclusive depository of original manuscripts of both sacred and classic literature—and for a long period of time. And if this was the fact, then it is highly probable that the original copies of the New Testament, or of books thereof, and of the Old Testament entire, were translated into the Greek during this period of literary activity in Alexandria in order to meet the needs: First, of the Greek-speaking Jews—later, of the Greek-speaking apostles and Christian teachers and disciples; and that these books were among the treasures of this most famous Library of the ancient world, or, indeed, of all time. On the authority of Tertullian, who lived in the first quarter of the third century, and of Chrysostom, who lived in the last half of the fourth century, the original Septuagint Version of the Old Testament scriptures—reputed to have been made near Alexandria in the third century B. C.—and, probably, with it autograph copies of the whole or parts of the New Testament were deposited in the Library at Alexandria.

[It may not be without its interest while referring to the large number of books treasured in the Alexandrian Library to mention, parenthetically, the number of volumes contained in some of the leading

libraries of the United States and of the world:

Johns Hopkins University	220,000
The University of California	240,000
The University of Michigan	252,000
Princeton University	260,000
The University of Pennsylvania	285,000
Cornell University	355,000
Columbia University	430,000
The University of Chicago	480,000
New York State Library (Albany)	500,000
Yale University	550,000
Harvard University	800,000
Boston Public Library, about	1,000,000
New York Consolidated Library, about	1,400,000
Library of United States Congress, about	1,800,000 ³
Strasburg University, France	700,000
Royal Library, Berlin	1,000,000
Imperial Library, Petrograd	1,500,000
British Museum, London	2,000,000
Bibliotheca National, Paris	3,000,000 ⁴]

³Encyclopedia Britannica (Eleventh Edition).

⁴World Almanac.

XVIII

VARYING FORTUNES OF THE ALEXANDRIAN LIBRARY

THE incomparable Library at Alexandria was exposed to the same vicissitudes as those which beset everything mundane. It was frequently rifled and portions of its contents were often destroyed through disturbances occurring in the period of the Roman domination, but it was as frequently replenished by the literary activity which found home and harborage in Alexandria for hundreds of years after the Christian Era had begun.

Tradition is divided both as to the time and the circumstances under which the Alexandrian Library and Museum, viewed as one institution, came to its end. The tradition which gained large credence that its career terminated at the time of the Saracen conquest of Alexandria in 642 A. D., and under the fanatical frenzy of the Caliph Omar, rests upon very questionable authority. The oft-quoted answer of the Saracen Emperor to the importunate appeal of the Alexandrian scholar (Joannes Grammaticus) to spare the Library, that, "If those books agreed with the Koran they were useless; if they did not agree with the Koran they were pernicious; in either case should be destroyed," rests mainly on the evidence

of a stranger who lived six hundred years later, is discredited by the best authorities, and is "overbalanced," as says Gibbon, "by the silence of the early and native annalists." Says a writer in the *North American Review*: "It may have been destroyed during the great riot between the orthodox and Arian factions in 389, when the Serapeum, which is said to have housed it, was burned. It can hardly have had the wasting fate that perhaps befell its Roman rival, and it is certain that Omar's iconoclasm is a myth. With Gibbon's judgment modern historical scholarship concurs: 'The solitary report of a stranger who wrote at the end of six hundred years in the confines of Media is overbalanced by the silence of two annalists of a more early date, both Christians, both natives of Egypt, and the most ancient of whom, the patriarch Eutychius, has amply described the conquest of Alexandria.'"¹ The better conclusion, therefore, seems to be that there was little of the famous Alexandrian Library in existence at the time of the Saracen conquest in 642 A. D., owing to the fact of its earlier demolition, which was begun, at least, in the time of the Emperor Theodosius, when, under the Emperor's permission, Archbishop Theophilus, at the close of the fourth century, led fanatical Christians in the destruction of heathen temples—not sparing the literary treasures of the Library which had been associated with an antecedent heathen patronage.

¹ June, 1914.

But, whatever the agencies of destruction, and whenever it was consummated, there is no difference of opinion among antiquarians, historians, and men of letters as to the world's irreparable loss and literary impoverishment when this far-famed Library and Museum (wherein had been gathered and treasured literature from Egypt, Rome, Greece, and India,—with its extensive departments for the business of transcribing literature, “and with every possible advantage which royal munificence on the one hand and learned assiduity on the other, could insure”) was destroyed; and the literary accumulations of centuries, including the immense library from Pergamos and inestimably valuable manuscripts of the Bible, were ruthlessly and irremediably wasted.

XIX

CONSTANTINOPLE, THE LATER CENTER OF LITERATURE

OUR gaze is now transferred from Africa to Europe. As Alexander had given his name to the City on the delta of the Nile, so Constantine has given his to the City on the Bosphorus. Constantinople stood as the capital and metropolis of the East for a thousand years, or from 329 A. D. (the date at which he removed his throne thereunto) on until near the middle of the fifteenth century, when the proud City fell into the hands of the Mohammedans and became in consequence the seat of the Ottoman Empire. When Constantine removed the capital of the Empire from the West he took many elements of intellectual life which had been the proud boast of the City of Augustus with him unto Byzantium; and, in process of time, the pomp, power, and learning of Rome and Alexandria were transferred to Constantinople—supreme in beauty and convenience of location. Constantinople seemed to occupy for more than a millennium of years both a charming and a charmed position. While Rome—for centuries a center and source of literature, having, after the time of Augustus, numerous libraries—together

with the capitols of provinces and countries of Europe had been successively occupied by contending armies, Constantinople had remained safe in her commanding position at the portal of two continents and had continued "unconquered and even unassailed." At the fall of the Capital in the East, however, Rome became again the head of the Empire, and its imperial Seat was transferred from the Bosphorus to the Tiber.

Under the favor shown by Constantine at his accession to the ranks of the Christian faith, whatever his motive, distinctively Christian literature was given an honored place in the imperial library; and through his coöperation, at a time when books were relatively scarce and difficult to obtain, several thousand volumes were collected. This collection, made up largely it is claimed of Christian literature, was augmented under some of his successors to the dimensions of a hundred thousand volumes. Furthermore, an efficient librarian had charge of these archives and directed the staff of copyists which were employed therein somewhat as had been the distinction of the Alexandrian Library. A new impulse was added in collecting and copying books by the personal favor of the Emperor—he himself, ordering from Eusebius, the church historian of the time, fifty copies of the Scriptures to be written on "artificially wrought skins by skillful calligraphists" for the use of the churches in and about Constantinople. And it is deemed possible and even not improbable

that the Sinaitic manuscript—one of the oldest and best of existing Greek manuscripts—may be a survivor of this number. The library at Constantinople, like all libraries, was exposed to the wastings of time and change but was replenished and renewed through that measure of intellectual vitality which survived in the city on the Bosphorus for a millennium of years.

Besides the imperial library, the churches and religious houses of Constantinople were enriched with collections of manuscripts more or less extensive. And not only in the favored City but in the regions adjacent—in the islands of the Ægean, on Cyprus, and in many other quarters—manuscripts were collected, transcribed, and preserved. (Isaac Taylor.)

Constantinople, while it continued to be the center of learning and literature, was by no means the exclusive center; for the enterprise of collecting and treasuring books was widely disseminated. "No spot," says Isaac Taylor, "was more famed for the production of books than Mount Athos—the lofty promontory which stretches from the Macedonian coast far into the Ægean Sea." And the churches, too, in wide areas, became depositories of books, especially of the Bible or parts thereof, liturgical volumes, and works of devotion. There were also church libraries at Jerusalem, at Rome, and in many other localities. One at Cæsarea is said to have contained, as augmented by Eusebius, the historian, about thirty thousand volumes. Gradually into all

these regions—into Crete, Italy, western Europe; and even into the British Isles; into Palestine, Arabia, and northern Africa—numerous monasteries with their collections of books were established and maintained. These religious houses were everywhere peopled by recluses, among whose principal duties was the care for and the transcription of books.

For long periods of time, however, and universally throughout Europe during the Middle Ages, there was, as has already been noted, a great decline in learning and but little interest in books—the exception to this condition being almost wholly limited to the occupants of the religious institutions. It is the record of history that, as civilization lost its energy in wide areas—especially throughout Gaul—intellectual darkness spread over all the country, so much so that there was hardly a layman and only a few among the clergy who could even read. Mighty leaders of state shared in this intellectual desuetude. Even Charlemagne, that great ruler who welded divergent peoples into one body to resist Saracen and savage, and who did much to institute and promote educational movements, lived and died with modicum attainments of technical learning. It is recorded of him in witness of his meager achievements in this direction that “He could read and understand Latin—but how well, perhaps, we had better not too closely inquire; he tried late in life to learn to write, but his progress in that direction did

not greatly impress his biographer." Macaulay asserts it of the twelfth century that "There was then, through the greater part of Europe, very little knowledge, and that little was confined to the clergy. Not one man in five hundred could have spelled his way through a psalm. Books were few and costly. The art of printing was unknown."

A number of factors and forces combined to keep alive the feeble and smouldering sparks of learning amidst the wide-spread intellectual gloom of the age. Early and prominent among these was the establishment and subsequent development of the abbeys and cathedral institutions in various parts of the continent and in Britain. Then came the founding of the Benedictines (which flourished from the sixth century on, spreading from Italy westward into France and England and in other directions, and gathering unnumbered devotees—under the threefold vow of poverty, chastity, and obedience—into thousands of establishments) together with the various Orders that arose from the tenth century on—in all of which there were greater or lesser attempts at study, learning, and literature, along with their other and more distinguishing ideals. [The orders and the dates of their respective beginnings were as follows: Carthusians, 1084; Cistercians, 1098; Carmelites, 1156; Dominicans, 1170-1221; Franciscans, 1209-1226. "The two orders," Franciscans and Dominicans, says Thatcher, "furnished all the great scholars of the later Middle Ages."] And toward the close of the

“Dark Ages” the movement toward enlightenment, known as the Renaissance, was accelerated in the beginnings of the great universities, the roots of which run down into the soil of the thirteenth century. Prominent among the great universities that date to the thirteenth century and which were located in widely separated regions and among divergent peoples, in England, Italy, Spain, France, Germany, and the North, were those at Cambridge, Oxford, Naples, Salamanca, Lisbon, Paris, Orleans, and Upsal. In all these there were nascent movements in the direction of literature manifested in the establishment of libraries as well as in the development of learning.

As indicating the extent and the importance of the specific movement toward the establishment of libraries, promoting thus the revival of learning after the long night of the “Dark Ages,” we desire to condense the following paragraph from a récent and valuable work: A number of libraries were established in Paris and were available, not only for professors, scholars, and students of the schools, but for those interested in books and literature and duly accredited strangers who came from elsewhere and who would accept the easy conditions of the libraries’ protected use. There were libraries also connected with the numerous abbeys of these and of previous and subsequent times. A score or more of these abbeys came, in time, to be located in England, as those at Wearmouth and Jarrow—places forever

distinguished for the life labors of the Venerable Bede—in a dozen of which there were fine libraries with large writing rooms wherein books were constantly copied and treasured. In France important collections of books were to be found at Cluny and in many other abbeys. The number of books in all these libraries was constantly enlarged and the libraries enriched from various sources: By the exchange of duplicate books with other libraries; by borrowing from neighboring libraries for the purpose of copying; and by donations of books from private sources and individual donors. As an example of this last mentioned source of increase and enrichment, the library of La St. Chapelle of Paris, founded by Louis IX., was constantly augmented by his donations of the books that had been given to him and which he passed on for the advantage of the library's patrons. Moreover, the constant "wear and tear" of books even when written on parchment or vellum, and notwithstanding the stringent regulations safeguarding their use to legitimate channels, constantly called for the re-writing of worn-out volumes that were passed along from one generation to another.¹

The Arabian conquests, too—notwithstanding the sore disasters which they at first seemed to threaten—turned rather, through the caliphs' subsequent patronage of learning and science, to the preservation and extension of literature. The Greek manu-

¹ The Thirteenth Greatest of Centuries, Chapter IX.

scripts came to be eagerly sought for by the Arabians and were translated into their own language. Colleges, schools, and libraries, in numerous places, were the tangible and assuring tokens of the subsequent favor of the Arabians toward literature. Bagdad in the far East and Cordova in the far West, with Cairo and Tripoli lying between, became seats of rich developments of science and letters and the depositories of books during the age when Europe was deeply enshrouded in intellectual darkness.”²

²Encyclopedia Britannica (Eleventh Edition).

XX

MONASTERIES AND THE MONASTIC INSTITUTION

THE roots of the great monastic movement which continued for nearly the whole of the Middle Ages run well back into the early Christian centuries. While the beginnings of Monasticism are involved in uncertainty they probably sprang from exaggerated tendencies on the part of individuals, toward lives of privation, hardship, and exposure, of which there were early numerous examples and conspicuous manifestations. These travesties upon devout character and mere abnormalities of religious devotion were not true products of Christian sentiment and ideals but glaring manifestations of morbid self-assertion. This movement was not conterminous nor contemporaneous with the development of Christianity; it existed apart from and prior to Christianity. There were tendencies and examples in the direction here indicated among the Jewish teachers; and it had a large embodiment in the ancient Buddhist as in the modern Indian systems. The central idea of the early ascetics, ever, was that the body is a clog and hindrance to the spirit of man, and hence the assumption of merit in and through the practice of severe austerities and rigid self-abne-

gation. There were many gross, horrible, and idiotic applications of this practice in the early stages of Christian history as there are in India to-day. The period of its chief ascendancy was in the third and fourth centuries.

The monastic movement spread in the fourth century into the extreme West. "Many of the islands around Ireland and Scotland," says Professor Thatcher, "were occupied by the monks, a large number of whom were hermits. Many monasteries were established. The movement became immensely popular, and within a hundred and fifty years there were hundreds of monasteries in the West and thousands of monks in them."¹ The order of Benedictines (founded by Benedict of Nursia at the beginning of the sixth century) ran its course and flourished for centuries. The order of Benedictines was followed (not superseded) by a succession of orders modeled somewhat after their earlier precursor. This movement extended its existence and its influence also far into the East as well as to the westward. Syria, Palestine, and Arabia—especially in the region of Mt. Sinai—were thickly studded with monasteries and "literally swarmed with recluses." Jerome, who lived well into the first quarter of the fifth century (died 420 A. D.), wrote at Bethlehem, Palestine, "We daily receive monks from India, and Persia, and Ethiopia."

The monasteries, so widely established during the

¹ *Europe in the Middle Ages*, pp. 325, 326.

period we are considering, became the schools and training-houses for the clergy—the only schools for a long period of time. And we are told that the rulers in the West encouraged the monasteries to open schools for boys in connection with their houses. The schools of this period, to be sure, would not compare with those of modern times, but they were the best available—in fact, the only schools; and they were not circumscribed to religious instruction. The testimony of Professor Dobschütz is that, “All the great fathers of the church insisted upon classical training; so did Jerome himself and Saint Augustine, not to speak of the great classical scholars in Christian bishoprics in the East. And even in the later centuries, when classical civilisation had gone and was only kept up artificially by assiduous reading, it was the church which maintained the right and the necessity of a classical training for the clergy. . . . There was a time when there was no reading at all outside the clergy and the monasteries, but this reading was a combination of classical and Biblical. That is the great merit of the medieval church.”²

The value and the extent of the instruction given in these schools was, for the most part, exceedingly limited, in both range and research. The monasteries were—and continued to be, for long—of far greater significance and service, no doubt, in their relation to literature—to its preservation and also

² *The Influence of the Bible, Etc.*, pp. 70, 71.

its dissemination—than they were as seats and sources of learning. “If there had not been great abbeys where schools of grammar were established, and where as many books as possible were jealously preserved, perhaps not one Latin writer would have come down to us.”³ Most of the monasteries, especially the larger ones, were provided with a “scriptorium” or a writing-room, where the monks with an inclination to literature and those also who were skillful with the pen were required, in the custom of most monasteries, to devote a proportion of every day to the employment of copying books. The large majority of all the scribes, throughout this entire period of a thousand years, were connected with the churches or the monasteries. By their employment in the writing-room worn-out manuscripts were replaced; borrowed books, transcribed, the copies made therefrom being retained at the return of the borrowed book; and thus in these and in other ways, gradually an increasing number of books found a home in the monasteries.

In the business of transcribing books, as often extensively carried on in many monasteries, several monks would sometimes copy manuscripts at the dictation of a reader and thus a number of copies would be produced at the same time. Each copy thus produced, however, was an “individual” and not a “manifold” or duplicate of the others, as in carbon copies or as printed from a type-plate. Writing at

³ *Medieval Civilisation*, Edited by Munro and Sellery.

the dictation of another was an ancient custom. It may have been practiced in the transcription of the cuneiform tablets. It is affirmed that Jeremiah, the prophet, thus dictated the writing to his faithful scribe, "And they asked Baruch, saying, How didst thou write all these words at his mouth? Then Baruch answered them, He pronounced all these words unto me with his mouth, and I wrote them with ink in the book." (Jeremiah 36:17, 18.) It is possible, or perhaps probable, that the fifty copies of the Scriptures which Constantine is said to have ordered to be made for the churches in and about Constantinople, may all have been produced at the dictation of a single reader. In that event, each respective copy, while collectively made by individual monks in the *scriptorium*, would bear its own distinct individuality. The copies thus made at dictation would not be facsimiles of one another or a proof copy of the original, but each copy *would* preserve a special kinship to all the other copies made under the same general conditions. And this is an important consideration in textual criticism—especially in tracing "family" likeness of certain manuscripts. And so, no doubt, from the *scriptoria* of the monasteries came the books, or many of them, with which the provincial mansions of the nobility and the private and public libraries were supplied. These manuscripts, made by the monks, were afterwards collected (or many of them were) in the libraries of Rome, Florence, Venice, Milan, and

elsewhere, as well as those treasured in abbeys and churches.

The monks, who were the principal copyists of the times, fostered distinct traditions of penmanship that led to distinguishing "hands" (page 115). They cultivated, also, not only the science and art of penmanship but the higher art of embellishment and illumination of manuscripts. For this they had both the time and the inspiring motive. From the monasteries of this period issued some of the finest specimens of the book-making industry and art extant in the world. In speaking of the illuminated books of the thirteenth century, Dr. Walsh says that, "Considering the number of them that are still in existence to this day, in spite of the accidents of fire, and water, and war, and neglect, and carelessness, and ignorance, there must have been an immense number of very handsome books made by the generations of the thirteenth century." And, quoting from another author concerning a special manuscript of this period, he says, "Every page is sufficient to make the fortune of the modern decorator by the quaint and unexpected novelties of invention which it displays at every turn of its intricate design."⁴

Allowing as we must—from the evidence—that monasticism possessed many inherent weaknesses and deficiencies, such as these: It withdrew many useful forces from society; it developed indifference for the family and the family life; it isolated re-

⁴ *Thirteenth Greatest of Centuries*, pp. 162, 163.

ligion from relation to and contact with the world; it nourished and incited materialistic aims and ideals under the garb of superior sanctity; it prompted and promoted fanatical zeal for part truths and whole errors; and other and kindred weaknesses and excesses—and yet, with due recognition of its limitations and perversions, its crudities and idiosyncrasies, it remains true, nevertheless, that monasticism, as a system, made many and important contributions, in various directions and for centuries, to the good of mankind, and furnished the most important link in the chain of events which perpetuated learning and literature in an age when, except for so extraordinary provision and guarantees, they must inevitably have perished. The monastic institution supplied, in a special and adequate manner, through the abbeys and monastic houses in which, so to speak, it was domiciled, a safe asylum and depository for the word of God. The common isolation of these establishments, together with the reputed sanctity of their occupants, were double security against the hand of violence and, therefore, a double means of preservation for the literary treasures—including both the Bible and classic literature—made and treasured therein.

But these affirmations are not to be maintained by reasoning however cogent nor by logic however convincing but by evidence;—by the testimony of the historians for the period in question. The witness of competent historians is summoned in their cor-

roboration. Mr. Lecky declares: "It is undoubted truth that, for a considerable period, almost all the knowledge of Europe was included in the monasteries, and from this it is continually inferred that, had these institutions not existed, knowledge would have been absolutely extinguished. . . . The monasteries, as corporations of peaceful men protected from the incursions of the barbarians, became very naturally the reservoirs to which the streams of literature flowed; but much of what they are represented as creating, they had in reality only attracted. The inviolable sanctity which they secured rendered them invaluable receptacles of ancient learning in a period of anarchy and perpetual war, and the industry of the monks in transcribing, probably more than counterbalanced their industry in effacing the classical writings."⁵ "It is certain," say Munro and Selery, "that we are indebted for the preservation of classical literature as far as it has been preserved, to the monks above all others. For hundreds of years they truly sheltered and preserved the treasures heaped up by those gone before, and also multiplied them through copying. . . . If the rules of some monastic orders forbade the reading of the pagan authors, the rules of other orders not only permitted it, but made it an express obligation to copy manuscripts. In this way the monks of the tenth, the eleventh, and the twelfth centuries rendered services to civilization which will never be

⁵ *History of European Morals*, 2: 207, 208.

forgotten. . . . With the foundation of the monasteries by the missionaries, learning and poetry made their entrance into Germany. Many of the writings of this early time are, of course, lost forever; but enough survives to enable us to declare, with certainty, that virtually all who studied and wrote did so in the quiet of the monastic cells.”⁶ Hallam testifies: “The monasteries were subjected to strict rules of discipline, and held out, at the worst, more opportunities for study than the secular clergy possessed, and fewer for worldly dissipations. But their most important service was in the fact that they were the secure repositories for books. All our manuscripts have been preserved in this manner, and they could have hardly descended to us by any other channel; at least there were intervals when I do not conceive that any royal or private libraries existed.”⁷ “The monks were also the civiliziers,” say Thatcher and Schwill. “Every monastery founded by them became a center of life and learning, and hence a light to the surrounding country. They cleared the lands and brought them under cultivation. They were farmers and taught by their example the dignity of labor in an age when the soldier was the world’s hero. They preserved and transmitted much of the civilization of Rome to the barbarians. They were the teachers of the West. Literature and learning found a refuge with them in times of violence.”⁸

⁶ *Medieval Civilisation*, pp. 282, 290, 330.

⁷ *Middle Ages*, 2: 484.

⁸ *Europe in the Middle Age*, p. 333.

"The monks became missionaries," declares Myers, "and it was largely to their zeal and devotion that the Church owed her speedy and signal victory over the barbarians; they also became teachers, and under the shelter of the monasteries established schools which were the nurseries of learning during the Middle Ages; they became copyists, and with great care and industry gathered and multiplied ancient manuscripts, and thus preserved and transmitted to the modern world much classical learning and literature that would otherwise have been lost. . . . In a word, these retreats were the inns, the asylums, and the hospitals, as well as the schools of learning and the nurseries of religion of medieval Europe."⁹ Speaking of the monks' contribution to civilization, Professor Emerson gives this estimate: "They opened up vast tracts of land to civilized culture; they helped by their lives of self-denial to keep in the minds of men a standard of morals somewhat higher than their own; they furnished a safe retreat where the spark of learning, beaten out by the violence of the time, might find a quiet corner in which to smoulder at first, and then to flicker up slowly and feebly, yet steadily into a brilliant flame."¹⁰ Similar is the witness of Professor Harding: "Each monastery was a settlement complete in itself, surrounded by a wall; and the monks were not allowed to wander at will. New monasteries were often located on

⁹ *Medieval and Modern History*, pp. 26, 27.

¹⁰ *Introduction to Study of the Middle Ages*, p. 144.

waste ground, in swamps, and in dense forests; and by reclaiming such lands and teaching better methods of agriculture the monks rendered a great service to society. Schools were also maintained in connection with the monasteries. . . . The monks were encouraged to copy and read books."¹¹ Professor Duruy claims that "the Benedictines added agriculture to preaching, and copying manuscripts to prayer. Schools were usually annexed to their convents, and contributed toward the saving of letters from complete ruin."¹² Says another: "Only with the revival of learning did literature and art issue out to the world in general; and then the end of the reign of the manuscript was at hand. So, before the decline of monasticism was accomplished, its special work as the exclusive guardian of literature was done; and the secular world was ready to take into its own keeping the heritage of learning which the monks had been so largely instrumental in handing down to it."¹³ And says Mr. Putnam: "The fall of Constantinople in 1453," (at the very time when Gutenberg was engaged in printing the first book) "and the introduction into Europe of the Turks, was unquestionably a great injury to Europe and to civilization, and the destruction of the collections of manuscripts existing in the capital itself and in the monasteries and libraries in other cities of the Em-

¹¹ *Medieval and Modern History*, p. 87.

¹² *History of the Middle Ages*, p. 288.

¹³ *Hastings' Bible Dictionary*.

pire, was an irreparable loss for literature. For the educational interests and the literary development of Europe there were; however, considerations to offset this serious disaster. Great as was the destruction of manuscripts, a number were preserved by individual scholars and in the hidden recesses of certain convents and monasteries. Many of these were at once taken to Italy, Germany, and France by the scholars flying from the barbarous conquerors of their land, and the works were thus brought to the knowledge and made available for the use of European students. Others were secured from their hiding places years after the capture of the City, by Greek scholars sent back for the purpose on behalf of the publishers of Italy and France, or of the universities of Bologna, Padua, and Paris, while some few valuable parchments were hidden so safely that they have been forgotten for centuries and are only to-day being brought to light from the vaults and attics of old monasteries, so as again to be included in literature accessible for the world." ¹⁴

The monasteries, as the tangible and permanent accretion of monasticism, then, may be justly regarded as the centers of learning and sources for the making of books—and by the slow and laborious process of hand-writing. And it was a slow and laborious process even though many copies were made at the same time from the dictation of a single reader. The monasteries became also the deposi-

¹⁴ *Authors and Their Public*, pp. 292, 293.

tories wherein the Scriptures, together with other literature, including often the classical writings, were preserved from destruction which the vandal hordes that often devastated large sections of Europe occasioned. The larger ancient libraries, except that at Constantinople, were destroyed through the fanaticism and ruthlessness of Saracen and savage, as these forces swept across northern Africa, overran Europe, and dominated all Bible lands. But in consequence of the previous wide diffusion of books into the monasteries and religious houses of the Roman Empire and beyond—in fact, into all parts of Europe and western Asia—the destruction by vandal, savage, and Saracen was far less sweeping, undoubtedly, than these successive invasions and revolutions—these changes and upheavals in society and government—would otherwise have occasioned. While cities were sacked and burned, castles, palaces, strongholds, and many churches were pillaged and overthrown, and whole countries were laid waste, a measure of immunity from attack was accorded to these religious houses—the homes of the monks and the Orders.

This immunity from attack, secured by the monasteries, was due often, and perhaps chiefly, to the fact of their secluded situations and to the strong defenses of resisting masonry which made subjection and pillage difficult and profitless. The convent of St. Catharine, where Dr. Tischendorf discovered the peerless Sinaitic Manuscript of the Bible in 1859, is

an example and illustration. This monastery was perched, as it were, on the precipitous slopes of Mt. Sinai at an altitude of full 5,000 feet above the level of the sea; and, until recently, the only manner of access beyond its solid, massive, and centuries-old masonry, was by means of a crude and primitive "lift" consisting of a chair and rope, controlled by the inmates and operated by a windlass and drum within and above. By this appliance all visitors were "elevated" some twenty or twenty-five feet from its base to the main entrance of the monastery. This arrangement safeguarded the occupants and the contents of this religious stronghold from risk of robbery and violence. These religious houses furnished even greater security by their position and isolation and were generally respected by the fiercest invaders.

The safety of the monks—of peaceful occupation and mien—and of their possessions—almost wholly literary, even in the periods of disorder and violence—was often due to the supposed sacredness of the roofs under which they were sheltered. And even when these asylums were not respected but seized and plundered, the books which they treasured had little or no value in the eyes of the ignorant and hostile invaders, or were hidden away in recesses of the monasteries beyond the reach of prying eyes. And even when the manuscripts of a single monastery, or the monasteries of a given region, were all destroyed, untold numbers of copies—and largely duplicate copies—by reason of their previous exten-

sive dispersion throughout wide areas and secluded regions, were preserved elsewhere to be again brought to light in more favored times, and, finally, at the revival of learning, which awaited the coming of the printing-press.

The thirteenth century has been called "the greatest of centuries," and, mainly, because it was the beginning period of emergence from the 'Dark Ages' and because the hearts of men were beginning to be thrilled with the anticipatory birth-throes of the coming revival of letters. "There is," says Goldwin Smith, "no more romantic period in the history of the human intellect than the thirteenth century." The Italian renaissance in the fourteenth century brought a deepening interest for the old Latin writings, and this, in turn, revived attention to the Greek classics—the fountain-head of the world's pagan literature. The awakening concern for classic literature led the Humanists in the fourteenth and fifteenth centuries to ransack the libraries of the monasteries and religious houses in even out-of-the-way places of Europe for all kinds of old manuscripts. Statesmen as well as students gave themselves up to the recovering of the literary and art treasures of Greece and Rome. The Greek empire, the Levant, and all western Europe were ransacked in every nook and corner; and the treasures of the Indies and the libraries of the Levant were bought, says one, "with impartial interest and equal delight."

This was a new and more fruitful kind of crusade,

of which Symonds declares, "As the Franks deemed themselves thrice blessed if they returned with relics from Jerusalem, so these new Knights of the Holy Ghost, seeking not the sepulchre of a risen Lord, but the tomb wherein the genius of the ancient world awaited resurrection, felt holy transport when a brown, begrimed and crabbed scrap of some Greek or Latin author rewarded their patient search." And of Petrarch, one of the most enthusiastic searchers for these ancient writings, Myers says: "He made many a long and wearisome journey, with the object of collecting manuscripts. The precious documents were found covered with mold in damp cellars, or loaded with dust in the attics of monasteries. This late search for these remains of classical authors saved to the world hundreds of valuable manuscripts which, a little longer neglected, would have been lost forever." And he says, further, "Libraries were founded where the new treasures might be stored, and copies of the manuscripts were made and distributed among all who could appreciate them."¹⁵ For it was a specific outgrowth of these new intellectual and literary impulses which heralded the passing of the "Dark Ages" that came the beginnings of the Vatican Library at Rome. This renowned library was established by Pope Nicholas V. at about the same date as the invention of printing and concurred with that invention to make effective for all time to come the revival of learning and of letters.

¹⁵ *Medieval and Modern History*, p. 270.

We have come back from our far-journeying to our starting point, the invention of printing, and perhaps cannot more fitly conclude this discussion than in the words of Lord Macaulay in his tribute to that great patron of learning after the "Dark Ages," Pope Nicholas V.: "By him was founded the Vatican Library, then and long after, the most precious and the most extensive collection of books in the world. By him, were carefully preserved the most valuable treasures which had been snatched from the ruins of the Byzantine Empire. His agents were to be found everywhere—in the bazaars of the farthest East, in the monasteries of the farthest West—purchasing or copying worm-eaten parchments, on which were traced words worthy of immortality."

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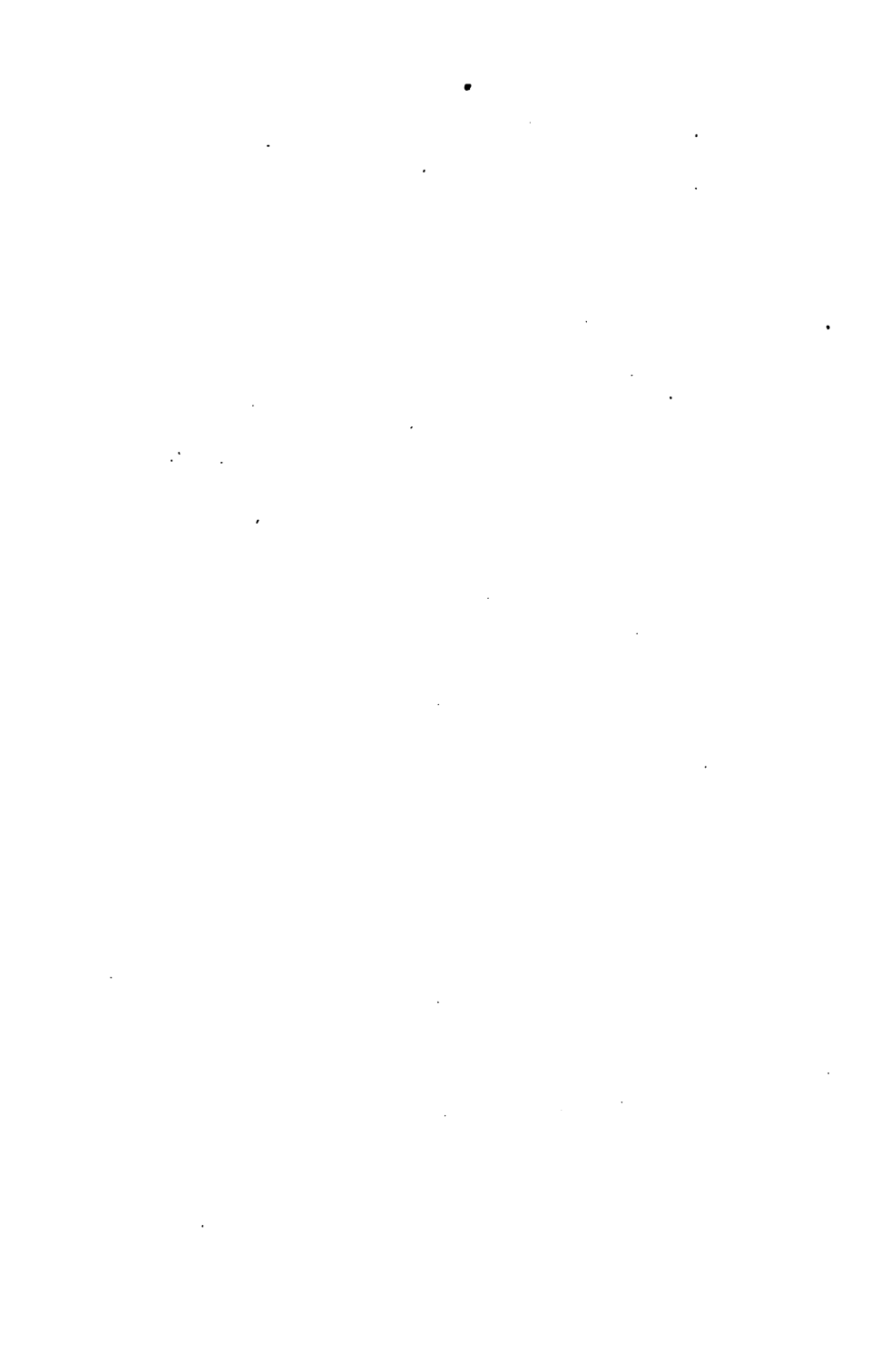
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